
MEDICAL REPOSITORY,

FOR

AUGUST, SEPTEMBER, & OCTOBER, 1809.

[The Editors feel pleasure in rescuing from oblivion the following account of a singular and interesting epidemic in the county of Sussex, and, (what is now) the State of Delaware, in the winter of 1775. The venerable author united in himself the professions of clergyman and physician; and was much distinguished for learning, benevolence, and active usefulness. The traces of certain pathological opinions, which prevailed at that time, but have since become obsolete, will not materially lessen the value of the facts here recorded, which possess every appearance of having been carefully and faithfully collected.]

History of a MALIGNANT DISEASE, attended with some peculiar symptoms, which prevailed in Sussex county, on Delaware, in the latter part of the winter, and beginning of the spring, of 1775. By the REV. MATTHEW WILSON, of Lewes, in a letter to ———, of Philadelphia.

THIS dreadful malady raged chiefly during the three last weeks of February and two first of March, in Sussex, on Delaware, and most about the Indian River, where the land is high and dry, but not at all on the other side of the river, where the ground is low and moist.

THE CAUSES of this malady are not easy to be determined. Permit me to offer some conjectures. So dry and warm a winter has not been known in the memory of the living. The air has generally been full of a dry *smoky vapour*. It is to be wished some philosophers would investigate this phenomenon. To raise such smoke from fire, would require almost a general conflagration; all *Ætna* could not do it.

This winter we have seldom had any winds, but from the southward, which sweep a vast tract of hot country, from the Andes and the Torrid Zone. The changes from heat

to cold have frequently been very great and sudden, often to 30 degrees in a few hours.

But the *want of rain*, in the fall and all winter, appears to be a more probable cause. Our *Savannas*, or ponds of water, which in common years stand full, have been altogether dry; and the most noxious vapours from them might easily arise.

This observation seems confirmed by the long experience of the Egyptians, among whom the plague rages when the country is dry; but stops immediately on the overflowing of the Nile again.

No people are more healthy than the inhabitants of our cypress swamps, who, in open cabins, raise healthy families, surrounded with water, woods and ponds.

The excessive use of *animal food* appears to me another partial cause. Many here use very little vegetable food, or even bread itself, but flesh or fish three times a-day. As flesh digests sooner, it putrefies sooner too, and leaves the solid fibres weaker, and the fluids more fit to receive any malignant contagion. Nor must I omit to observe, that the people where this disease first broke out, in common winters, have abundance of excellent fish, not only for themselves, but the market, which fishery, this year, totally failed through want of frost; so that, instead of fresh and salt fish, they have lived on fresh and salt pork. What effects this might have, I leave to men of more leisure to enquire; only mentioning a certain fact, which may suggest matter for further reasoning: it is this, wherever people, in these warmer climates, use much swine's flesh, from generation to generation, they are mostly afflicted with eruptions, foulnesses, rotten legs, sordid ulcers, &c. or, at the least, they have scorbutic gums: hence stinking breath and loss of teeth, &c. But when such families will be persuaded to live on vegetables, they may be cured with a few medicines.

SYMPTOMS. I proceed to attempt a description of this fatal disease, by which people died as fast as their neighbours could well bury them, until we found some successful remedies. Though I left home, and stayed among them night and day, going from house to house, watching nature, and trying all safe and probable experiments to save the people, yet so great was the variety, it is not easy to describe it.

What *time* the contagious *fomes* of this disease lay in the body, after the infection was taken, could not be determined. Some were taken ill in a few days after they had seen the

sick, but especially after they had been at the interring of the dead ; some went a week, and some perhaps a fortnight ; and a few took it from the air, without going nigh the sick.

The *first stage*, which generally continued several days, was rather more discernible to their friends than themselves. They complained a little of having taken some cold ; had a little cough, and did not feel very well, but went about their business. The colour of their skins was remarkably changed before they complained much ; some few, especially women, were jaundiced, and their eyes a good deal yellow ; the rest were all in some degree pale and bloodless in the face, and their skins a dusky or tawny yellow or pale ; their eyes seemed heavy, and sometimes hollow ; they complained of a small chilliness ; their appetites were much impaired ; they generally had some giddiness and heaviness in their heads ; they had very little thirst, not only in the access, but in the increase of the disease ; they had generally a remarkable lowness of spirits and dejection of mind ; they felt also a great weakness and weariness in all their limbs ; they could not sweat, through the whole, except those who were consumptive before, who had some colliquative sweats, which hastened the extreme hour ; perspiration was surprisingly obstructed, as appeared by the constant dryness and dusky colour of the skin ; their breathing, when in bed, was difficult, though not so when sitting up ; some, through the whole, would not lie down in bed, but sat up as in some asthmas ; their *urine* was very crude and indigested, and of a whitish colour, such as physicians observe in some nervous diseases and gangrenes.

In this stage the disease might be removed by proper remedies.

The *second stage* may be computed from the time of their being seized with agues, which varied much in degree, in different patients ; some had several cold chills for a day or two ; the heat which followed this was seldom great, and not such as might be expected after such cold paroxysms. Indeed, through the whole, the *Fever* was not of a sufficient strength to comminute and carry off the cause of the disease. The *pulse* was I think quicker, weaker, and more irregular, than in a common nervous fever, and excessively deficient, as well as intermittent, before death. For a day or two after their agues, they seemed lethargic, drowsy, and yet restless, with dreams, &c. The headach and giddiness generally increased, till a day or two before death, when they grew

sensible and clear of pain ; all their limbs, in many of them, frequently trembled, as if paralytic, while they complained they felt weak and weary. All, except two or three, complained of what they called a BURNING PAIN ; this was extremely various, as to the part seized. In far the greatest number, I concluded it to be in the *diaphragm* (for dissection could not be permitted here) by the difficulty of breathing, and their complaint that their pain-girded them round their heart like a belt. Thus it resembled a *paraphrenitis*, but without the *delirium*. In some, the pain more resembled a *pleurisy*, true or spurious, or a *pleuro-peripneumony* ; in others the pain or burning seemed in the *stomach*, with hiccoughs like the *gastritis*. Sometimes, the burning was diffused over the *abdomen*, which was swollen and hard, like a *peritonitis*, and communicated the same affection to the *membrum virile* ; but no buboes. In some it resembled the *pericarditis*, but without *syncope*. In one person, it appeared as a *carditis*, by the difficulty of breathing, *restlessness*, *palpitation*, *pulse insensible* to the touch, and his dying in twenty-six hours ; his lungs having been weak before. Some had little pain, of which they made complaints ; some had most pain in the back, like a *lumbago*, but less severe ; some in their ears and tonsils, but moderate ; one, not under my care, died of an external gangrene about his eye, in a day or two ; and one woman of a mortification in her feet, in child-bed. Give me leave to remark here, that though this pain so nearly counterfeited so many *inflammatory diseases*, yet, when treated in such a manner as would have relieved these diseases, this distemper was rather aggravated than relieved. I looked into many of their mouths and *throats*, and found them covered with such a mucus as in the throat-distemper two years before : the *tongue* foul, rough, and of a yellowish white, though they made no complaint in general about it. It seemed remarkable too, that the *taste* was not only impaired, but in some quite lost ; in some, their *hearing* was almost lost soon after seizure ; in others, only *dull* ; in some few, there were *bilious* and *fetid diarrhæas*, which shortened the disease, but in a fatal manner. All before death had great *difficulty of breathing*, and some could not lie down at all. They often said, their hearts felt as in a press.

It was truly remarkable of most of them, that they died as in *Scorbutus* ; their pains generally gone, their senses and reasoning powers restored, and they talking cheerfully

as usual; therefore, when they suddenly grew quite easy, while the breathing was difficult, we had a sure presage of death.

As to CRITICAL DAYS, I could not determine any; as, indeed, I find them very uncertain in most diseases in this climate, and differing much from those fixed by the greatest physicians. One (as I said) died in twenty-six hours; others, at different times, between four and ten days, counting from their cold chill. It must not be omitted here, that though I very carefully examined, I did not find any of the high characteristics of the plague, or pestilential fever: I heard of no bubo, carbuncle, parotids, blisters, nor white bladders on the skin; nor even hemorrhages, nor spots, as in the spotted fevers.

But I must also relate, that the *dead bodies* were presently corrupted. They purged, and were very putrid presently after death; and I thought some were so before it. The faces of some could hardly bear the winding-sheet, as I was informed. When this was found, we had them interred as soon as possible: but sometimes, before the coffins could be made, the dead were dangerous on earth.

REMEDIES. It would be more tedious than useful to relate all the methods of cure I tried, and the medicines, and various combinations of them, to no purpose at all, for some time. At first, it appeared by the account the messengers gave, that it was a *pleurisy*. I was then obliged to go a journey, and could not attend; but I sent them the usual remedies for that disease, ordering the usual evacuations. They were bled at intervals, blistered on the pain, had the best expectorants, pectoral infusions, &c.; but to no good purpose at all. When I came myself to see them, on weighing, as well as I could, the circumstances, I concluded it to be a *peripneumonia typhoides*, and had great expectations from the class of powerful *antiseptics*; but here I was as much mistaken. On the whole, I found *camphor* and *salt-petre* mixt, useless. *Camphor* had no sensible effect, and *salt-petre* seemed rather injurious, except when blown into the throat to cleanse it. *Opium* increased the difficulty of breathing: *volatile salts and spirits* were insufficient. I could not even promote perspiration by camphor, volatiles, and thebaic tincture together. I suspected *worms*; and mild *mercurials* brought some away; but seemed to do no other service. *Bark*, in large and repeated doses, would not check the gangrene; the *acid elixir* did small service; *blisters* to

the pain seemed to increase the internal burning or gangrene; *bleeding* was certainly very pernicious; not one recovered, who was bled in the arm: bleeding in the feet was little better, if they bled freely. The same remark on bleeding, I since find, was made by some in the *pestilential fever* in London, A. D. 1665, when they buried 9000 a-week.

That which is said to be *Heinsius's* antipestilential remedy, for which he had a statue erected to him at *Verona*, was altogether unsuccessful here. Vomits, at first, seemed of service; but I suspected they sometimes induced a gangrene in the stomach; purges had the same tendency in the intestines; the *antimonial essence*, as an alterative, would avail nothing, &c. &c.

Distressed in mind, in this mortality, I gratefully ascribe to the Being of unerring wisdom, and boundless compassion, the granting a clue to extricate us out of this perplexity. It is simple, indeed, and plain; but such are all the ways and laws of nature.

Reflecting on two or three external mortifications, which happened about the same time, I considered that this disease must be the same, only *internal*, and less accessible; that some *very malignant, peculiar acrimony*, must produce these effects; probably contracting the nervous fibrils into spasms, which give the burning pain; and interrupting the nervous and other fluids, to the destruction of the part; whence the paleness, weakness, &c.

I resolved, therefore, to try medicines which would *blunt the acrid venom, remove the spasms, raise the vital powers, warm and open the skin, and rouse the languid nerves*, all at the same time.

℞ Camphor. gr. v. Balsam Traumat. 3 i. Sp. sal. ammon. Tinct. thebaic. aa gutt. xxx. Decoct. rad. althæ. 3 j. m. f. haustus.

This was given to adults twice a-day. A single dose would sometimes relieve, when taken early in the first stage; but some required several doses.

The camphor and opium seemed necessary to ease the pain, remove dismal apprehensions of mind, compose to rest, and moisten the skin.

But when the disorder was advanced to the *second stage*, even when the sick were very low, the following rules, I think, always succeeded, viz.

1. ℞ Rad. valer. sylv. ʒj. serp. virg. camphor. aa gr. iv. gum. assafœtid. gr. ii. syrup. com. q. s. f. bolus. This may

be repeated two or three times a-day, to promote sweat and urine, rouse the languid nerves, &c.

2. To the pain we applied hot poultices of leys of ashes, thickened with Indian meal, in a thin linen bag, which is excellent for pains, spasms, and gangrenes.

3. To correct the acrimony, and relieve the nerves, we gave a large spoonful of the traumatic balsam, in which was contained a quantity of aloes, mixt with an equal quantity of spt. sal. volat. viz. a dose every three hours.

4. Their drink was a decoction of mallows roots and catnep, made into an hydromel, with honey and vinegar. Of this they were obliged to drink a gill hot every fifteen minutes, though against inclination.

5. Whether costive or not, clysters of the mallows-decoction and salts, were of great importance twice a-day.

6. That rest might assist perspiration, we gave, night and morning, half a grain of opium, with the antispasmodic bolus, No. 1.

7. For diet, I directed panado, mush and molasses, pure warm butter-milk, great hominy-liquor, whey, light bread, greens, lemonade, tamarinds, &c.

When the stomach was sick, we gave a neutral mixture, fresh made, as usual, applying a poultice of mint, wormwood, leaven and vinegar, to the pit of the stomach, with a slice of onion under it.

The putrid diarrhœa was easily relieved by anodynes, and drinking freely a strong tea of the red-oak moss, and by opiate clysters.

When weak at the end of the fever, wine, especially when bark and garlick are infused in it, much restores the constitution.

While we were attending one of the last funerals, it pleased God to send us a pretty plentiful rain; since which, this awful calamity has chiefly declined.

Lewes, March 22, 1775.

A case of ANTHRAX, successfully treated. Communicated to Dr. EDWARD MILLER, by DAVID HOSACK, M. D. Professor of Materia Medica and Botany, in Columbia College.

NEW-YORK, July 31, 1809.

Dear Sir,

ALTHOUGH the disease, which is the subject of the following case, was well known to the Ancients,* and has been well described by modern writers,† and is of so frequent occurrence as to fall under the notice of most practitioners; it is no less true, that there is at this day great difference of opinion, as to the mode of treating it. It will be recollected, that but a few years since, it was the subject of a public controversy in this city; and in Europe, surgeons are no less divided in their treatment of this disease, than they are in this country.

In 1794 I attended a case of Carbuncle, in consultation with two of our eldest and most respectable practitioners. The inflammation exhibited by the tumour appeared so active, that we unanimously agreed on the application of lead-water; poultices of bread and milk; an abstemious diet, with the internal use of depleting remedies. Under this treatment, the febrile symptoms increased; the tumour extended; sphacelus ensued; and, in a few days, terminated in the death of the patient. The appearances, progress, and termination of this case, led me to the resolution to employ a very different treatment in those cases which might afterwards fall under my notice. Since that period, it has been my practice to support the strength of my patient by a nutritious and stimulant diet, and the free use of bark and wine; at the same time preserving the tone and action of the part itself, by frequently washing the tumour with spirits or brandy, and by the constant application of a poultice composed of *bark and yeast*. Finding these remedies successful in many instances which have fallen under my care, I enclose to you the following case, in which this practice was pursued, under the most unpromising circumstances, and therefore is better calculated to establish the principles upon which the cure of this disease is to be conducted; especially when it occurs in advanced life, and is preceded by, or accompanied with,

* See Galen, Celsus, Fabricius.

† See Wiseman, Bromfield, Kirkland, David, Prix de L' Academie Royale de Chirurgie.---TOM. iv.

Pouteau Œuvres posthumes. Pearson's Surgery.—Cooper's Surgery.

a scorbutic or vitiated habit of body, as I believe, is most usually the case.

If you consider the enclosed to be deserving of public record, it is at your service.

I am, with great regard, yours,

DAVID HOSACK.

Dr. EDWARD MILLER.

On the 5th March, 1808, I was called to Elizabeth-Town, in New-Jersey, to see Mr. John Hartshorne, aged 84, then on a visit to the family of Mr. Thomas Eddy.

He was extremely debilitated, and suffering much distress, from a tumour on the small of the back, which had been of several days continuance.

Upon enquiring into the history of the case, I was informed that the tumour, in the first instance, appeared like a common boil; but having been preceded by several smaller ones, and an eruption on the skin, it excited very little attention on the part of his friends. It, however, very soon was attended with an acute burning pain, and began to spread, the adjacent part assuming a deep red or purple colour. The family physician was called, who, at that time, was not acquainted with the peculiar character of this disease, having never met with it before in his practice, and therefore very naturally treated it as a common phlegmon; applying the common cataplasm of bread and milk, for the purpose of inducing suppuration, together with the internal use of those remedies that are usually prescribed for the removal of simple inflammatory tumours.

The inflammation continued to extend, attended with severe pain in the part, fever, restlessness, loss of sleep, and occasional delirium. In this state I found him. The tumour appeared about six inches in diameter; of a dark purple, livid colour; extremely painful, and sensible to the touch; in the centre of the swelling the colour was still darker, and was attended with a discharge of a thin acrid humour, as is usual in erysipelatous inflammation, altogether exhibiting the symptoms of approaching sphacelus: his pulses were small and frequent; his skin preternaturally heated, and attended with a sense of itching, over the whole surface of the body: his tongue was moist, but foul: his bowels were costive, except when relieved by injections, which were occasionally administered: his urine was sparing in quantity, and high coloured.

Under these circumstances of a typhoid state of fever, attended with a gangrenous appearance of the tumour, we advised the part affected to be washed with a strong solution of soap and water, rendered more stimulant by the addition of a small quantity of rum or brandy, and afterwards a cataplasm of bark and yeast, to be applied over the whole surface of the tumour; the same to be renewed every four hours, making use of fresh yeast at each application: a wine-glassful of a decoction of bark and Virginia snake-root, was also directed to be taken every two hours, together with the free use of porter, panado made strong with wine, and soup, as his nourishments.

As he suffered a great deal of pain, he was also directed to take occasionally, throughout the day, about twenty-five drops of laudanum, and at night an anodyne draught, if otherwise he was unable to sleep. These directions were faithfully complied with.

Upon visiting him on the 7th, his symptoms were much changed for the better. The appearance of the tumour was more healthy, and assumed a brighter colour, but was somewhat increased in size, and in the extent of the inflammation: his pulses were more full, and less frequent: his strength was also improved: he suffered less pain, and discovered a greater inclination for nourishment than he had before done. As he was fond of eggs and oysters, they were also allowed him. All the other remedies were directed to be continued.

I did not see him again until the 12th: in the mean time the bark and yeast poultice had been steadily continued, with his decoction of snake-root, a generous diet, the liberal use of wine, and anodynes whenever he suffered much pain, or was deprived of his rest. At this time the tumour began to discharge, at different parts of its surface, a very healthy* pus: the apertures were small, but numerous, resembling the cells of a sponge, or honey-comb. It continued thus to discharge for several days.

We did not think it necessary to enlarge the openings, through which the matter was evacuated, as directed by

* I am not a little surprised at the observation of John Pearson, [see *Principles of Surgery*] and the Editors of the *Edinburgh Practice of Physic and Surgery*, when they remark, that "an Anthrax never evacuates a laudable pus." Wiseman also observes, "that he never saw a true Carbuncle suppurate." On the contrary, I am inclined to believe that the wound never heals without this change in the quality of the discharge.

Mr. Kirkland, David,* Mr. Cooper,† and the Editors of the *Edinburgh Practice of Physic and Surgery*. In cases where the ulceration may be of greater extent than in the present instance, and the quantity of matter very great, this practice may be adviseable and necessary. About the 22d, we directed the poultice to be omitted, and the wound to be dressed with simple cerate. Within twenty-four hours after this change in the application, the quality of the discharge was sensibly altered. Instead of a healthy pus, a thin sanies, as in the beginning of the disease, was again poured out. The complexion of the tumour also assumed a darker appearance; and his friends again became alarmed for his safety.

Finding these changes, we again advised the tumour and neighbouring parts to be bathed with brandy, and the poultice of bark and yeast to be renewed.

From this time the wound recovered its healthy aspect, and continued to heal, without an unpleasant symptom. When the discharge totally ceased, and the wound had become cicatrized, a light compress of linen, wet with rum or brandy, was directed to be applied to the yet tender surface of the part affected. As he still continued to complain of an itching over the whole surface of the body, we put him on the use of the decoction of Sarsaparilla and Guaiac.

On the 7th April he was discharged cured, and returned to his family, in Monmouth.

If it were necessary, I could here add the history of another very formidable instance of this disease, as it occurred in the family of the British Consul, Col. Barclay; in which precisely the same treatment was pursued, and with the same happy result.

* See a very valuable memoir on abscess, by this writer, in the *Memoires de l' Acad. de Chir.* tom. iv.

† See First Lines of the *Practice of Surgery*.

CONSUMPTION of the LUNGS, illustrated by dissection and by practice. In a MEMOIR by Dr. ELIAS BLACK, late House-Physician to the New-York Hospital, and now Physician in the city of Rio Janeiro. Addressed to the Hon. SAMUEL L. MITCHILL. Dated Nov. 1, 1808.

Dear Sir,

ACCORDING to your request, I examined the body of John Martin, (a black) who died yesterday, of Phthisis Pulmonalis. As his dissection presented appearances extraordinary for a defunct by that disease, I will, if you please, detail the case. He was a seaman, aged twenty years, born in the West-Indies, of a slender habit, narrow across the shoulders, and had a contracted chest. He was admitted into the Hospital in April, having been sick all the preceding winter, with fevers and slight pulmonic diseases. His complaint, on admission, appeared to be intermittent fever and catarrh; but these soon gave way to all the symptoms of pulmonary consumption. His eyes became pearly in appearance, his cough was very distressing, expectoration purulent; his pulse rather smaller than natural, and corded; tongue red at the point and edges, with a red list running up the middle, which was bounded by a thin coat of fur on each side, pain in the chest, and hectic paroxysms. These symptoms showed the disease to be rapidly advancing, and to my apprehension to depend upon membranous inflammation of the lungs. He was accordingly put upon the use of calomel, with the other curative means, as blisters and expectorants. The mercury was continued until his mouth became sore, when all the phthisical symptoms subsided. His expectoration was mucous, and lessened in quantity, his strength so far returned as to enable him to walk all over the house. These flattering appearances were preserved during the mercurial action only; as soon as that subsided, his emaciation being extreme, he relapsed into his former state. The same remedies were again exhibited, but without effect: he sunk under his disease, and became, before his death, typhoid.

On dissection, the following appearances presented. In the abdomen, the liver was rather lighter coloured than natural, and of a bilious tinge: it was also increased in size. Many of the mesenteric glands were enlarged, and the bladder was thickened and distended, with urine: the rest of the viscera were to all appearance perfectly healthy. In the

thorax, the pericardium contained rather more fluid than usual, and of a turbid reddish appearance. The lungs were more flabby than natural; on their edges were small air vesicles: there were no adhesions between their lobes, nor between them and the pleura. On cutting into them, no traces of organic lesion could be discovered. The presence of inflammation could not be detected, as transudation had taken place; the body having laid twenty-six hours after death, before it was examined.

From the history of this man's case, I am confirmed in an opinion which I some time since formed, that phthisis pulmonalis was not always attended with tubercles and ulcers, and consequently fatal from that cause. I was led to this belief by seeing a number of cases of this disease yield to calomel, which from all appearances would have terminated in death, had not this remedy been used.

There appears a species of consumption, of which the above case is an instance, where extensive inflammation of the membrane lining the bronchia, ushers in the disease, and for the most part attends it throughout. This inflammation appears to assist very much, in the production of that peculiar irritability, which, when the formation of pus is perfectly established, gives rise to all the terrible symptoms of confirmed consumption.

Inflammation in any important part, generally increases the irritability of the system. This inflammation of the membrane lining the lungs, appears to exist only in sufficient degree to act as an irritant, and hence the arterial system does not fall into great excitement, as from the stimulus of more active inflammation in pneumonia.

Debility is generally the parent of increased irritability, unless there is nervous affection, as in typhus. Hence debility may be said to be the great predisposing cause to this complaint. Dr. Rush has admitted this, in describing the symptoms which indicate its approach. He particularly mentions, that the patient has been for a long time affected with a burning sensation in the palms of the hands and soles of the feet. He also mentions, a sense of fatigue on slight exertion, as a precursor to this complaint. All this is debility.

This species of consumption then, we may define to be, great increase of irritability, consequent in a great measure to debility, and this irritability renders the system susceptible of various morbid actions, which are much increased by

the existence of membranous inflammation of the lungs, and the purulent secretion therefrom.

Catarrh in constitutions disposed to consumption occurs very readily, and even appears to constitute predisposition in many. This arises from a debilitated state of the membrane lining the nostrils and lungs, disposing them to hæmoptysis and epistaxis. This last is so common an attendant on the predisposition to this disease, that almost all the consumptive patients who were admitted into the Hospital last winter, had been subject to it, some time in their lives. Debility of the membrane lining the bronchia, disposing it to inflammation, is more particularly shown in influenza, where in constitutions of this kind, the patient recovers slowly, and is troubled with cough for a considerable length of time, after the violent symptoms have subsided; or where the patient never recovers after an attack of influenza, but his cough and troublesome symptoms continue, and bring on consumption. Almost all the cases in the Hospital last winter, came on in this way. The influenza had been neglected, until all the symptoms of consumption supervened, and which in the greater number of cases, appeared to depend upon the membranous inflammation before described. To this circumstance may be attributed the great increase of consumption in the Hospital last winter, and the more than ordinary proportion of cures of that disease, by mercury.

It is more than probable that slight feverish exacerbations attend the person predisposed to consumption, and hurry him into it. These must be occasioned by the increased irritability, which renders the system more susceptible of action, on the application of the ordinary stimuli, as food. In these exacerbations, the feet and hands have that burning sensation described above.

No one at present doubts, that a morbid association of action constitutes most of our diseases. In the one before us, it is probable that the augmentation of irritability admits of some associations contrary to health, which increase with the complaint. The hectic paroxysms may be of this kind. They were checked in a patient last winter, (who was a subject of the clinical lectures) by giving at their accession a stimulating sudorific.

John Martin's case appears to establish these positions: we know that on dissection no traces of organic lesion of the lungs could be discovered, and we are right in concluding there never had been any. The membranes were en-

tire; their vessels had existed long in a state of debility, and consequent inflammation, which was shown by the catarrh; and the debility and irritability of the whole system, was so much increased by his other diseases, that on the accession of purulent expectoration, he fell into all the symptoms of consumption. The debility and emaciation consequent to so copious a discharge of purulent matter, and from such an extended surface, will readily account for all the phthisical symptoms so soon supervening.

That pus may be formed from the vessels of a membrane, where there is no ulceration, I think we have sufficient evidence in ophthalmia, where often the adnata will be covered with purulent matter, and no lesion can be discovered on it.

The difficulty of cure in this disease, arises from the great degree of debility and irritability, existing in the system. The greatest nicety is therefore requisite, to administer such remedies as shall remove the debility, without increasing the excitement of the arteries, which are rendered so susceptible of action, by the irritability. Hence, after the mercury has removed the membranous inflammation, and checked the morbid associations, and the secretion of purulent matter, nothing can be given but the mildest tonics, and the most bland nutritious diet. Hence, milk has almost had the reputation of a specific. Hence, it is probable, that the lichen islandicus owes all its credit to the slight tonic of its bitter, and its very nutritious quality. Hence, any easy gestation, as riding on horseback, or the agitation of a vessel, is very beneficial, as it interrupts the morbid associations, and evolves excitement, by bringing all the muscles into gentle action, without stimulating the arteries.

Mercury in this disease appears to be the only remedy: its power in removing membranous inflammation, is every day manifested, in pneumonia, catarrh, and many other of the phlegmaciæ. I have generally given it to salivation, but think I have observed the good effects of it in some cases long before that came on. Where the constitution of the patient appeared able to support the influence of the mercury, I have kept up the ptyalism for a considerable time, to prevent a return of the complaint. But this requires a great deal of management, as by continuing it too long, debility may be so far induced that the return of health will be rendered impossible.

All the cases, which have occurred to my observation, of

relapse, after having been benefited by mercury, were occasioned by the great debility, which could not be sufficiently overcome to prevent the return of morbid actions, before the ptyalism went off. These relapses, in most cases, hurry on to death, and the poor patient finds an end to his sufferings sooner than he would have done, had only palliative means been used. But this should not deter us from giving calomel a second time, if the first should not succeed, when there are sufficient stamina of constitution remaining to sustain its action.

I have given calomel more than any other preparation of mercury, and think I have observed the best effects from it, when combined with squills; as in this way it became an excellent expectorant. In cases where there was considerable arterial excitement, I have combined with it tartarized antimony and opium, in small quantities, and the result has hitherto justified the practice. In the generality of cases, I have given it in the quantity of two or three grains a day, in divided doses, but in some instances I have used it more freely; five or six grains a day have been attended with advantage: this however must be always regulated by the violence of the disease, and the state of the stomach and bowels of the patient.

Some practitioners have objected to the use of mercury in consumption, when there was any inflammatory action existing; but I believe without reason; as we give it in pneumonia, hepatitis, and dysentery, with the greatest good effect. Differing from these gentlemen, I think the disease in this stage, is the most likely to be relieved by it. For where all inflammatory action has subsided, where the tongue looks pale and watery, where the emaciation is considerable, and the whole frame appears in a relaxed state, mercury does not promise to be useful. Here there is no excitement to reduce, or membranous inflammation to resolve. Mercury can do no more than destroy the morbid associations, remove the membranous inflammation of the lungs, and diminish the quantity of purulent matter: the rest of the cure must be done by moderate tonics and a nourishing diet.

It is astonishing how quickly patients in this disease recover their strength, on the commencement of the mercurial action: even those whose constitutions have been too much injured to be restored, are often elated by these flattering appearances, with the hope of a speedy recovery.

The power of mercury in destroying morbid associations,

is evinced in intermittent fever, where a gentle ptyalism frequently cures the disease.

I do not wish to be understood as recommending the use of mercury to the exclusion of every other means: the lancet may often accompany it with advantage. But it must be used with the greatest caution, as the increase of irritability may show feverish excitement, when bleeding would increase the disease, by increasing the debility and irritability.

Blisters are also an excellent auxiliary, where the inflammatory action continues, and there is considerable pain in the chest. But when these circumstances do not attend, I should suppose them injurious: the discharge must debilitate the patient. I have seen several cases where they appeared to have this effect.

Having in some degree given an account of the kind of consumption in which I think mercury promises the greatest advantage, I will now if you please, detail some of the cases which were benefited by it.

Barnet Casey, born in Ireland, aged 25 years, was admitted into the Hospital last fall, with phthisis pulmonalis of two months continuance. He was so unwell as to be confined to his bed; his complaint had succeeded an attack of influenza; his expectoration was copious and purulent, and his cough very distressing; he took calomel, two grains a day, until ptyalism came on, when all the phthisical symptoms subsided and eventually disappeared. This man was one of the subjects of the clinical course last winter. After leaving the Hospital, from which he was discharged cured, in the spring he had a violent attack of pneumonia, of which he recovered by the free use of the lancet and calomel, and is now a healthy man.

Abraham Banta, born in New-Jersey, aged 31 years, blacksmith, was admitted into the Hospital in March, 1808, with phthisis pulmonalis, which had been preceded by catarrh, of three months continuance. He ascribed his complaint to the dampness of a very deep cellar in which he had worked a considerable time before his disease assumed an alarming appearance. He had formerly been subject to epistaxis, and on taking cold some years ago, was affected with slight hæmoptysis. Pulse slightly corded and quick, tongue red at the point and in the middle, a considerable degree of hoarseness, violent cough, and purulent expectoration. Calomel was given him to salivation; when all the

symptoms of his disease left him, and he was soon discharged, cured. I have since seen him in perfect health.

William Oaks, born in Wilmington, aged 34 years, seaman, was admitted into the Hospital in March, 1808, with hæmoptysis. This complaint had continued about three weeks, during which he raised blood daily: at the end of this time, his bloody expectoration ceased, and consumption came on with more than ordinary violence. He expectorated large quantities of purulent matter, and was so hoarse that he could hardly articulate a word; he complained of severe pain in the chest, which daily became more distressing; he was obliged to sleep sitting up in bed, with his head resting on his chair; and he had taken such a quantity of salt, (to check his hæmoptysis) that he was unable, from the soreness of his fauces, to swallow any thing less fluid than water; his cough and dyspnœa were extremely troublesome, and every circumstance indicated a speedy and fatal termination to his sufferings. In this situation he was ordered mercurial frictions.—Ptyalism soon came on, and all the unfavourable symptoms in a short time left him. These are three, of many cases, which have occurred to my observation; but I should believe them sufficient to evince the utility of the exhibition of mercury in the cure of that peculiar kind of phthisis above described.

Some cases of conversion of other diseases into consumption, may afford still greater evidence of the efficacy of this medicine. I will therefore, if you please, relate three, which occurred nearly at the same time, in the Hospital.

Mr. S. was admitted Feb. 9th, 1808, aged 18 years, with an inveterate itch, of six months standing; his body was completely covered with the eruption. On the use of medicine, or from some unknown cause, after he had been in the house about two months, the eruption disappeared, and diarrhœa came on in consequence. This was checked by the ordinary means, anodynes and astringents; but a second translation of action took place to the lungs: and now his disease put on all the appearances of phthisis pulmonalis, with membranous inflammation. It advanced with alarming rapidity: the physician in attendance said he should not be surprized if the patient died in a fortnight. He was completely of the sanguine temperament, and I believe was subject to bleeding from the nose. Calomel was given him to six grains a day, with a small

quantity of tartarized antimony and opium, until salivation was produced. All the phthisical symptoms soon went off, and the eruption returned to the skin, but with diminished violence. He complained for some time after of slight pain in the chest, and cough, but these symptoms gradually subsided, and he was discharged free of all pulmonic affection, some time after. The calomel was continued in smaller quantity, when the ptyalism had subsided, not only to guard against any return of disease to the lungs, but to act as a remedy for his eruption.

This case is perfectly in point with the foregoing observations. Great irritability of constitution had been brought on, by the debilitating effects of the remedies used to remove the itch, and the irritation constantly existing on the skin. The membrane lining the bronchia shewed a tendency to inflammation by the epistaxis and catarrh, to which he was subject. He was moreover of a sanguine temperament, and consequently of an irritable constitution naturally. The morbid action of the skin was translated to the lungs, and there produced inflammation and suppurative action on their membranes. Mercury was given him to salivation; the inflammation and suppurative action of the membrane lining the bronchia subsided; the morbid associations went off; the cough and expectoration ceased to trouble him, but the original disease not having been entirely removed, the eruption returned.

Two cases of conversion of rheumatism into phthisis, occurred at the Hospital last spring: one of them was syphilitic, the other not. The rheumatic affection had continued a long time; in the one free of syphilis about ten months. The passive inflammation appeared to leave the parts which it had so long invested, and to centre upon the lungs. All the symptoms of consumption immediately succeeded this translation of action. They expectorated purulent matter in very large quantity, had distressing cough, hectic paroxysms, and the pulse and tongue put on all the appearances and character described in John Martin's case. I attended to these cases particularly, and was assisted in my observations by Mr. Bayley and Mr. Golden, who visited the patients with me regularly. The one free of syphilis, John Cesar, a mulatto, aged 26 years, seaman, had been considerably reduced by the long continuance of his disease, but appeared to be naturally of a good constitution. He was put upon a liberal use of calomel, tart. antimony and opium,

as in Mr. S.'s case : ptyalism was soon induced, and he not only entirely recovered of his consumption, but his rheumatism also ; and was some time after discharged, cured, having been sick twelve months.

The other case, Jones, (a black) aged 30 years, seaman, is now in the Hospital. He took the calomel to two grains a day, which salivated him. His phthisis went off, but his rheumatic affection returned.

That long protracted catarrh, which is often the precursor of phthisis pulmonalis, and which constitutes the predisposition to consumption, in some families, may I believe be generally cured by calomel.

Mr. S—w had lost all his brothers and sisters about the time they came to the adult state, by consumption. He was nearly twenty-one, of a sanguine temperament, and had been subject to epistaxis at the age of puberty. He complained of some uneasiness at his breast, slight hecking cough, loss of appetite, and sluggishness ; pulse rather quickened and full ; papillæ of the tongue more injected than natural. He took a few calomel purges, was bled, and a stimulating plaister was applied over the whole length of the sternum : he was ordered to avoid the night air, or any current of wind, and directed to live on a light nourishing diet, and is now perfectly recovered.

Herman B. Hinckley was admitted into the Hospital in April, aged 20 years, seaman. This man was also of the sanguine temperament. He had catarrh of three months continuance, which he said had been called consumption. Had considerable cough and pain in his breast, but his expectoration retained the mucous character. He took calomel to salivation, which relieved him, but on the mercurial action subsiding, his disease returned ; he was again salivated and discharged cured.

John Crandall was a case very similar to the above, the same remedies were used, and with the same effect. He was discharged with orders to go into the country : this he did, and continued there some weeks, but was obliged to come again to the Hospital, with fistula in ano. His cough had returned, but was not so violent as before. This relapse was brought on by exposure to cold and wet, and he in all probability will die of consumption ; for though his appearance was tolerably healthy, his constitution was so much impaired that the adhesive inflammation could not be produced after the operation for his fistula.

Thus far, Sir, you have the observations of one who knows very little of the opinions of others, respecting this complaint. On entering the Hospital, a new remedy presented, which, from accounts, promised more than any other had hitherto done: I therefore endeavoured to forget every thing I had read on consumption, and attend to the effects of this new medicine. Its success has often raised the most sanguine expectations, and its failure as often depressed them. That it has benefited many, is certain, but that it will prove a specific in every stage and species of consumption, I cannot believe. The correct mode of administering it is perhaps not yet discovered. If it should prove a remedy hereafter, and this should be in only one fourth of the cases, which is much less than the proportion hitherto cured, how large would be the annual saving of valuable lives! Your tables of mortality in the *M. R. Hex. II. Vol. v. p. 32*, present a most dismal picture of the ravages of this disease. According to the computation there made, one-fifth of all who died in the years 1803—4 and 5, setting aside all the other pulmonic diseases, and those marked debility and decay, which make the number approach to nearly one-third, were brought to their end by this terrible complaint. This immense mortality calls loudly on physicians for a diminution, and makes even the least exertion towards it important. I have had so many proofs of your liberality, that I need not now solicit it to excuse the inaccuracies which must exist in this first production of one who is, with every sentiment of esteem and respect,

Your obedient humble servant,

ELIAS BLACK.

LANCISI's Work on the NOXIOUS EXHALATIONS of MARSHES :
Published in Latin at Rome about one hundred years ago,
and translated into English by SAMUEL L. MITCHILL,
at Washington, during the second session of the ninth Con-
gress, 1806—7.—Announced in our 2d Hexade, vol. 4.
p. 304. (Continued from p. 18.)

CHAPTER FOURTH.

An answer to the objections of those that think fetid exhalations from putrefying substances are not only not unhealthy, but rather act as correctives of unwholesome air.

I. **A**LTHOUGH it is entirely repugnant to our habits and feelings to attack the opinions of others, yet being bound to maintain as ably as we can, the doctrine contained in the preceding chapter, for preserving the health of human beings, we shall answer the empirical objections of some persons, not empirically merely, but with the force of reason.

II. Some have entertained a notion that the effluvia of corrupted substances and marshy waters had no manner of noxious operation, because they have read that these very agents were sometimes considered as remedies in some pestilential seasons. Thus Alexander Benedictus relates "*that he had heard from a merchant of Candia, that all the dogs were killed during the prevalence of a violent plague, and by order of the physicians thrown about the streets. The air was soon filled with their corrupting exhalations, and their remedial operation immediately restored the place to health. The Sarmatians were accustomed to employ the same means.*" Very near akin to this story, is another related by George Pictorius, *who heard a man from Utopia affirm, that in an epidemic plague, nothing was more wholesome and excellent than three times a day to snuff up the fumes of a privy, or of a sheep-fold.* So also Joseph Quercetanus adduces the case so familiar to the people of Paris, to wit, that of the nastiness of their streets being considered by many physicians as checking the putrefactive taint of their atmosphere. Nor are there wanting other authorities from very serious writers, collected by Gaspar a Rejes, by which it is shewn that bad smells are sometimes valuable auxiliaries of nature.

III. But we have nothing to apprehend in making a full reply to all these observations. As to Alexander and Pic-

torius, the experiments were not made by themselves, but told on the credit of others. The former got his story from a Cretan merchant, and the latter from a Utopian traveller. The facts are therefore of a very questionable nature. But supposing the cases to be as they state them, all learned men deservedly condemn the practice of breathing an air impregnated with the effluvia from a stinking carcase or a jakes. Even A. Rejes himself rejects it, and says the experiments and their authors ought to be banished to those barbarous places whence they were derived. Sennertus is of the same opinion; and Quercetanus opposes the opinion as unfounded, because *it is adding bad to bad, which is like mixing poison with poison.* The curious may examine what Paul Zacchias has collected on this subject. And Quercetanus, if he was alive, would rejoice that the streets of Paris have been cleaned by order of King Lewis XIV.; but their filth having been removed for the public good, it would be difficult to derive the latin name *lutetia* from the *lutum* or mud with which it abounded. But although we believe with Alexander Benedict, that the killing of the dogs during the prevalence of plague was of great service, the benefit was not derived from the stench, but from the interception of the contagion, which as the physicians assert, is carried every where by those animals. Such however is the imbecility of the human mind, that unless strict caution be observed, effects will be mistaken for causes, and confusion be introduced into our reasoning.

IV. We learn, from the very nature of things, that the fetid exhalations of bodies corrupting in dry places, of which examples have been brought, are composed of much more subtil and loose particles, and of such as are endowed with a greater proportion of volatile salt, than those which are raised from filthy waters. For these latter are most gross and mucous, because they are loaded with impure sulphur, crude salt and phlegm. Whence it comes to pass that they are more cohesive, and when they have gained entrance into the body, are excluded with greater difficulty. We do not however condemn in a mass all fetid things; as it is well known, in certain cases, hysterical ones for example, that the spasms are often allayed by bad-smelling substances held to the nostrils; because, either the convulsed nerve is moved in a contrary direction by the new stimulus, and thereby loses its former action, or the cause itself, being shut up within the villi of the nerves, is thrust out and dis-

sipated. But although the mixture of particles in a fetid substance is able to overcome the particles which cause convulsions, who will be rash enough to make use of stinking stagnant water to allay a public pestilence, after the experience of so many ages? especially since the same Alexander Benedictus, who was the first patron of stinks, and adviser of their remedial operation, when he, in another place, delivering his candid opinion on filthy waters, declares them all to be noxious: *Waters, he writes, are pestiferous, which lurk in concealment, which undergo no motion, and which have not sufficient ventilation; and bring a pestilential poison to our bodies.*

V. Some draw an argument, of greater seeming weight, from facts observed both at Rome and Bologna, during the prevalence of the plague; to wit, that in both those places, those inhabitants were most free from the contagion who dwelt in the streets among the Tanners' shops, and the disagreeable odours which proceeded from them. They quote this as a most decisive proof that putrefaction, (which is promoted by moisture) such as that of macerating hides, is so far from doing any injury to human beings, that it is an admirable safeguard against pestilence.

VI. In this instance, we think with Boyle, that it is difficult from one set of experiments to make inductions to others; for we ought to observe diligently all the differences, however small they may seem, in every case, since they may afterwards be found, by comparison, to be very great. Thus, in the present example, we must remark that skins are not permitted, either at Rome or Bologna, or any where else, to lie long and putrefy in still water; but are only washed and soaked for some hours, especially during summer, in clear water. By this operation the fleshy matter which adheres to them is relaxed and loosened. After this they are thrown into lime-water to macerate, and further subjected to the fleshing-knife. But if this process should be conducted in any other manner, and the hides be left to corrupt by the month near the shore of a lake or a pool, there can be no doubt that their effluvia, during the hot season, would be very pernicious to the neighbouring inhabitants. On this account it was, that the famous physician, Gometius Paneira, whose works are now in high esteem, enumerated the stench of hides among the causes of pestilential fevers. Rome itself furnishes an occurrence exactly in point. Near it is a place where the carcasses of

horses and mules are carried to be skinned and cut up into meat for feeding hounds and cats. When this business is negligently performed, and the bowels and limbs thrown into the river, lodge in the nooks and coves of the bank, the neighbouring inhabitants immediately suffer from the malign quality of the air, and are afflicted with malignant and pestilential fevers. So true is it that putrefaction, aided by stagnant moisture, exerts a deadly operation.

VII. What satisfies us of the ease with which wise men commit blunders, when they start wrong, is this, that our opponents have mistaken the antidote for the poison, and the remedy for the matter of mischief. For, in the tanners shops, the hides are not long soaked in plain water, but in lime; and after being thus treated are preserved with a mixture which, when duly prepared, we pronounce to be an alexipharmic of the most powerful kind. It is therefore not the stench of the skins, but the wholesome smell of the lime, myrtle, and of the eastern nuts called vallonia, which destroys the pestilential and corrupt taint of the air.

VIII. Scarcely any person is ignorant that Robert Boyle had decided, as well by his own experiments on effluvia, as by those of Diemerbroeck, *that during the prevalence of Plague, in those houses wherein the distemper had not yet shewed itself, if clothes were washed with nasty water and soap, on that, or sometimes the next day, two or three together were attacked by the plague; and the sick themselves testified, that the stench of the soap-suds produced in them the first and greatest alteration.* And he adds, that the particles before dispersed through the air, but not yet powerful enough to do any harm, had become deleterious by the addition of the exhalations from the soap-suds. Diemerbroeck, in the place referred to, treats at large on the pernicious effects of fetid vapours, and fully explains the objections raised against that doctrine.

CHAPTER FIFTH.

What Marshes are the most or least noxious.

I. As other productions of nature possess gradations of properties and faculties, so also Marshes, both in respect to human beings and to one another, are more or less noxious, or not at all so. We shall take a view of these differences individually, according to their causes.

II. Marshes impart to the air a greater or less degree of unhealthiness, according to the following circumstances: 1. The different nature, quantity, and mixture of water, and of other bodies mingled with it: 2. The varying seasons of the year: 3. The situation of countries: 4. The habits and constitutions of the inhabitants; which have a powerful tendency to increase or diminish the wholesomeness of a marshy atmosphere.

III. As respects the first, there are five sorts of water, with which marshes and fens may be overflowed. 1. River-water: 2. Fresh spring-water: 3. Mineral spring-water: 4. Rain-water: 5. Sea-water. There can be no doubt, that those marshes are the most deleterious which consist of a great quantity and mixture of waters, more especially of the mineral kind; for these, if they are not dried up during the summer, ferment and corrupt more powerfully and mischievously, on account of the different and opposite principles they contain. But those are most hurtful, and almost pestilential, which are charged with a great deal of heterogeneous filth from corrupting carcases, and which are dull to the sight, thick to the touch, sharp to the taste, stinking to the smell, and make war at first with the external senses of new comers, and then with the whole human machine, which they disorganize and bring to ruin. Hence it happens, that in the Roman and Ferentine territory, as well as in other places, where hot sulphurous and acidulous waters abound, the diseases which arise from them are always more violent than where simple and fresh water, however copious, settles on the ground. And here my readers are to stop, and to take into consideration the reasons wherefore the epidemic fevers, whose histories we shall give in our second book, although they proceed from the same marshy taint of the atmosphere, are not invariably alike, nor accompanied with exactly the same symptoms: nor do they yield to the same antidotes and remedies.

IV. Small marshes, which are replenished almost wholly by rain-water, are productive of but little or no damage; to wit, when it descends abundantly from the neighbouring hills and mountains to the valleys, and at length finds its way to some depressed spot, whence there is no outlet to any river, and remains in that situation, with an addition of little or no filth, in the form that is called *Collects*. Marshes of this kind, about the time they would grow noxious with the increasing heat of summer, decrease or dry up. Col-

lects of this kind, are not only not injurious to man, but are, on the contrary, eminently useful; because they save large tracts of valuable land from being overflowed during the winter and spring. Theophrastus has written on the advantages of this sort of marshes, observing that they are the best for watering gardens; that they are drunk greedily by cattle and swine; that they predispose to fatness; and may be swallowed when their bodies are heated by working or running, without incurring the pain and danger which is consequent upon drinking cold and crude water.

V. Harmless likewise, but for a totally opposite reason, are those marshes which, during the most violent heats, are plentifully diluted and cleansed thoroughly by pure and fresh supplies from the fountains. We read in Strabo's Geography, a most remarkable example of this. Alexandria, in Egypt, stands near the marshes; and although it ought to experience, during the scorching of summer, a close and suffocating air, yet, by the seasonable rise of the Nile, nothing filthy exists whence a vitiated exhalation can rise; especially when the Etesian winds begin to blow from the North, and arrive after sweeping a wide tract of sea.

VI. In like manner, large, deep, and agitated marshes, composed of fresh, or of sea-water only, having but little mud, and abounding with fishes, are by no means mischievous; especially if their margins are not overgrown, which is however a very rare case, with reeds and rushes.

VII. But sea-water, if it remains alone and unmixed, is almost entirely innocent. This is owing to the inherent particles of its own salt, powerfully resisting corruption and putrefaction, and destroying the worms of marshes, as it every where does leeches. On this subject Ludovicus Testius has gravely philosophized, in his treatise on the salubrity of the atmosphere at Venice. For this region, although it abounds with lagoons or inlets from the sea, has nevertheless a friendly atmosphere, caused by the volatile acid spirit that is incessantly rising from the sea.

VIII. Very different are those ponds, in which the fluid of the ocean is mingled with that furnished by rains and mineral springs. For fresh water, mixed with salt, as J. Baptist Donus observes, spoils quicker and easier. There, dreadful is the air in low places, near the sea shore, into which the waves find entrance by a canal, that has either been open during the memory of man, or made by human artifice, or produced by a storm; and into which recepta-

cles also, the rains wash down the filth from the adjoining knolls and hills. For it is to be understood that the bottoms of these maritime ponds are composed of the same strata with the neighbouring sea, and are separated from it only by intervening heaps of sand.

IX. There are some ponds of this kind in the territories of Ferrara and Ravenna, as well as of Rome, especially near Ostia, where the salt works have been erected. In all these places, it has been remarked, that if the sea-water was not suffered to go freely in and out, putrefaction would take place in the pond soon after it was dammed up, in hot weather, and the fishes would die. N. Cabeus relates that he was an eye-witness of this in the Comaclensian Lake. In like manner, Fortunatus Fidelis declares, *that some unknown mischief is engendered in places along the shores of harbours. For there many vessels are moored, all their nastiness is accumulated, and the excrement of cities deposited. Wherefore, although the maritime aspect of the place promises something highly encouraging to health, yet it is all marred by this horrid mixture of things.* It was therefore well observed by Pliny, *sea breezes are noxious; in many places they are useful; to some persons it is pleasant to behold the sea from a convenient distance; to draw nearer the saline exhalation is useless; the only sure guide is experience.*

X. Again, it seems to be established by facts, that the ambient air is less wholesome where the shores are sandy and the waters are shallow, than where the shores of sea-port towns are bold and terminated by rocks. For, the filth is immediately thrown up again upon a shore that is sandy and scant of water; nor can it be easily diluted or washed away: but where the sea is deep, the filth immediately goes to the bottom, and emits nothing noxious into the atmosphere. There is another inconvenience of a sandy shore, which is, that it is extremely permeable by sea-water, and every way penetrable by it. On this account it is, that a hole is filled with salt-water as soon as it is dug. This fluid leaving the greatest part of its salt in the bowels of the earth, is the more prone to corruption in hot weather, when southerly winds and rains prevail, bringing with them many particles of impure salts and of sulphur, as well as the rudiments of insects floating in the air. Therefore this kind of moist shores are frequently marshy along their creeks, and easily contaminate the neighbouring atmosphere. This however very seldom happens among the Prisci in the Ecclesiastical

State, because that region abounding in buildings, woods, and inhabitants, and these latter incessantly employed in draining their lands, is rendered healthy in proportion to its dryness.

XI. As to the seasons of the year, all these sorts of marshes are harmless at mid-winter and through the spring, until the south and other winds wax warm. They are even salutary to men of certain temperaments, such for example as are full of acrid salts, prone to coughing, of slender frames, and predisposed to consumptions. But they are noxious through the summer, and until the autumnal equinox; or even beyond, if heat and drought accompany the south winds. But, how certain degrees of unhealthiness arise and manifest themselves in the course of the summer and autumn, will be explained in its proper place.

XII. A third point to be considered in the unhealthiness of a country, is its situation. The inhabitants of mountains, particularly those which front the north, suffer very little from ponds, even during the heat of summer; because they emit fewer exhalations; and these, besides the smaller degree of malignity they possess, are more rapidly dispersed by the winds. On this subject, the Dissertation of Joseph Ceredus, thrice printed in Italian, upon the modes of raising water from low situations, is worthy of being consulted. On the contrary, the effluvia are pestiferous to the inhabitants of plains and valleys, particularly if the marshes lie to the south, because the vapours being exhaled from them in greater abundance, are also of a more noxious quality, and not so readily dispersed by dry winds. On this point, the sentiments of Vitruvius, in the first book of his Treatise on Architecture, are worthy of being consulted. Moreover, such is the malignity of a marsh lying to the south, that although towns are built upon the tops of hills, the exhalations are wafted thither, with all their mischievous properties, by the southern and south-western winds. Gandolpho affords a fact in full illustration of this; for the lake Turnus lay formerly below it, full to the south. From this the air was vitiated, although the prospect was not injured at all. The ill effects of this were so serious, that Pope Paul the Fifth could correct them in no other way than by draining the lake to dryness. In commemoration of which, the following inscription in marble is to be seen in front of the government house at Gandolpho: " IN THE YEAR OF OUR LORD 1611, POPE PAUL V. FINDING THIS TOWN TO BE ON

THE DECLINE FROM THE SCARCITY OF WATER, AND THE NOXIOUS EXHALATIONS OF LAKE TURNUS, CONTRIBUTED TO ITS HEALTH AND JOY, BY BRINGING WATER HITHER FROM THE DISTANCE OF THREE MILES, AND BY DRYING UP THE LAKE, IN THE SEVENTH YEAR OF HIS PONTIFICATE."

XIII. Finally, in designating the degrees of unwholesomeness, the constitutions of men and their habits of living are worthy of particular consideration. For they who are born and reared in the neighbourhood of marshes, enjoy good health in an unhealthy atmosphere. And children can by degrees be accustomed to take considerable doses of poison, beginning with small ones at first; because small irritants, or poisons, when gradually applied to our fluids and solids, have so very small an operation, that they do not overcome the strength and reaction with which the constitution at that time of life greatly abounds. But both of them have a wonderful correspondence, and thereby make up that difference which, as Hippocrates observes, *exists between body and body*, and between *one constitution and another*. Whence Pliny has well observed, *that they who are seasoned, can live amidst pestilence*. And indeed, in some places, marshes are so far from being noxious, that the Mexicans eat not only the eggs of the flies and fishes which inhabit marshes, but even the stinking mud itself. By this power of habit does it happen, that men can live upon the small islands in those ponds and lakes; and that even the floating islands which the winds drive about from place to place, have their human inhabitants. For Secundus, in his description of the lake of Vadimon, declares he has seen them. P. Cabæus has observed them in the marshes of Ferrara, and I myself have seen them in the Alban lake.

XIV. But they who pass from a pure air to the marshes, fare the worse, in proportion to the excellency of their atmosphere and food, particularly if they stay long enough to fall asleep. Although the bad effects of the noxious air may be in some measure lessened, if not altogether avoided, by a strict and proper attention to the six non-naturals. As to intemperate persons, they fall sick sooner or later every where.

XV. It is plain from what we have delivered and explained, what Hippocrates means by the declaration, that *marshy waters are pernicious*; to wit, from the premised observations in a ratio to the mixture and quantity of the

waters, the season of the year, the situation and position of the region, and lastly the constitution and diet of the native inhabitants and the new-comers.

(*To be continued.*)

ORIGIN of YELLOW FEVER in the contaminated air of a COASTING VESSEL, and of the TOWN of ST. MARY'S, in Georgia; with an enumeration of its symptoms and mortality, and the beneficial effects of volatile alkali as a remedy; during the autumn of 1808. In a communication from JAMES SEAGROVE, Esq. of St. Mary's, to Dr. NICHOLAS S. BAYARD, of Cumberland Island, in that neighbourhood, dated March 21, 1809.

IN compliance with your request, I herewith state to you, for the use of your friend Dr. Mitchill, of New-York, as distinct an account of the unfortunate sickness that prevailed in this town last fall, as it is in my power to give. Not being a medical man, my relation of it will doubtless appear very awkward, and perhaps not be fully understood; but I hope due allowance will be made.

During the spring and summer of 1808, the town of St. Mary's was (as usual) remarkably healthy. During the latter end of August and first part of September, there were continued heavy rains, which filled all the low grounds, and the water lay on the surface of the earth for some time; the wells were full to the surface, and the water became very bad and offensive: yet no change in the health of the inhabitants was observed until about the 5th of Sept. when one of our coasting packets, between this and Savannah, called the Polly, Capt. Fowler, arrived with two sailors sick on board. These men were landed and placed in lodgings; one of them died a few hours after; the other lingered for some time. These men had all the symptoms of the disorder that proved so fatal in this town. The first citizen who died was James M. Lindsay, on the 9th of Sept. He had attended the first sailor that died; and on the 10th, a free black man, named Sip, who also attended these sailors, died. The vessel that brought the sick seamen had been employed in carrying corn and a variety of provisions, and was in an exceeding foul state; so much so, that it was distressing to go on board—(this you were a witness to yourself.)

This had been the case during the summer: the consequence was, that two more of her people died on board of her, some weeks after, and several passengers suffered much.

The disorder spread rapidly after the death of Lindsay and Sip, and I have traced its progress from its first appearance; and as far as my observation goes, I believe the fire was lighted up by the landing of the two sailors from the before-mentioned vessel, and the exceeding neglect of the Health Officers and Police of the Town. The heavy rains, the flat, low situation of the town, the filthy state of the place in general, and a quantity of rotten provisions stored by unprincipled speculators and smugglers, contributed not a little to the ready receiving and promoting the sickness. These are my candid sentiments: but as I am destitute of medical knowledge, large allowance must be made. I shall now state to you the symptoms and progress of the disorder, as far as my observation went.

The unfortunate person was generally seized with a pain over the eyebrows, the back of the head, in the small of the back, and a chill, as if an ague was coming on. Thence great oppression in the breast, great pain in the limbs, with a smart fever and delirium: these generally took place within five to eight hours of the first symptom; a great difficulty in keeping the body open, or getting a passage, attended almost every case. It appeared that the passage from the upper part of the body to the lower parts of the bowels, was nearly or totally closed, so that medicine had no effect toward opening a passage. I knew a gentleman to have taken in the course of three days upwards of 100 grains of calomel, with the usual proportion of jalap, frequent clysters and the warm bath, and all to no effect, until a large blister on the stomach, and frequent rubbing with brandy and laudanum, gave relief. It will be observed by the daily returns of new cases and deaths, that several died in 24 to 48 hours, from being hearty and well. In almost every fatal case, the black vomit or bleeding at the mouth and nose took place before death.

The mode of treatment by Dr. Turner, with whom I was intimate, and with whom I visited almost all his patients, was as follows. He recommended generally to the inhabitants while in health and afterwards, to avoid animal food, to live low as to eating, to avoid ardent spirits, to drink freely of lemonade as their common drink. When seized with the disorder, his first prescription was a dose of calomel and

jalap, and sometimes tartar emetic and glauher's salt, using every endeavour to open the body, and keep it so by clysters and the warm bath; blisters applied to the pit of the stomach, and rubbing with laudanum and brandy, he used with good effect.

Two practisers, of the name of Ross and Hitchcock, made free use of mercurial ointment, externally; and mercury internally, so as to salivate all their patients: how successful their practice has been, my list will explain.

Bleeding was not used (to my knowledge) in any case except that Dr. Turner bled himself, and Dr. Stowel bled Mr. Hamill: both these that were bled, died. As soon as the breath was out of the body, it assumed a yellow, then a purple, and afterwards a black colour; and was immediately in a state of putrefaction. A fever attended until within a few hours of death, when the pulse fell; and although the sick person generally died in great agitation, there appeared no fever. They were in general sensible before death.

The Africans and native blacks were as subject to the disease as the whites; but it was not so fatal to them. As an instance, I will mention how liable they were. I had no less than seven down in my family with the fever, and only myself to attend them: my house-servants being among the number, made it necessary to send to my plantation for two black men and two women, to assist me. They came, and within 24 hours, three of the four were down with the fever: all of them recovered, though they had it severely. Here I beg leave to mention an experiment I made, and I believe with success. You may recollect, my friend, my having saved the lives of several persons bit by rattle snakes, by the application of the *Eau de luce*. I knew it to be an effectual cure for that poison, and somehow took it into my head that it might have a good effect in the present malady. I consulted Dr. Turner, if there was danger in giving it to my negroes; he said no. I then gave from 40 to 60 drops in a glass of water to my sick negroes, and repeated the dose three times in 12 hours, and found a good effect; for of 12 negroes and a white child, who had it in my house, that I administered this medicine to, not one of them died. I am of opinion that the *Eau de luce*, used in the early stages of this yellow fever, will have a happy effect. I was out of town from the 1st until the 26th of Sept. and knew nothing of the sickness until I came to town.

There was great neglect in the Town Council, from the
Vol. I. S

first appearance of the sickness, in not sending as many of the inhabitants as possible out of town, and providing a hospital for the poor unfortunate sick. Nothing was done on this head until the 28th of Sept. when I called a town meeting, and had a committee of health appointed, consisting of five.

Their first step was, to examine every house and ascertain the state of the sick, and their number. Their return on the 29th, was 31 whites and 24 people of colour, then very ill. The committee immediately provided a hospital, nurses, medicines, and nourishment, for such of the sick as stood in need; but the disease had taken such hold on them, that of the 31 whites then sick, 15 died.

The entire population of the town, by a census taken a year before, was about 350 whites, 150 blacks; but the committee of health had obliged all that could be moved to quit the town, and by the 2d of October there were not more than 100 white inhabitants remaining, *sick or well*. From this number, it will be observed, that upwards of one half died.

It is worthy of notice, that there were in the town during the whole of the sickness, about 30 French people, and not one of them had the prevailing fever; although they visited the sick, and were very useful in attending and relieving those who survived. I attribute this in a great measure to their mode of living; it being entirely on very light food, (no flesh meats) vegetables, and thin gruel: their drink lemonade, made as follows—take the sour orange, peel it very clean, cut it into quarters, take out all the seed, put it into a vessel with a close cover, with a sufficient quantity of brown sugar to make it palatable, pour thereon boiling water, and let it stand covered until cold: this makes a pleasant drink. The French were opposed to mercury in any way. I am of opinion, that if the body can be kept open without the aid of harsh powerful medicine, in this disorder, it would be best. I think favourably of the French mode of treatment.

Not a single person who took the disorder in town, and went to the country, (until in a convalescent state) recovered. At one time during the sickness, I could not reckon more than eight white men in the place (except about ten Frenchmen) that were free from the fever, or that could assist themselves to any kind of nourishment. The committee had coffins made and kept ready, and buried without delay all who died: they burnt all the bedding and clothes that were immediately used by the sick who died: they have

had most of the privies filled up, and others dug: the wells were cleansed, and every other precaution taken to prevent a return of the like next season.

I should be very happy if Dr. Mitchill will take the trouble of writing to me, and giving (for the benefit of our little place) his opinion of the fever herein described, and his advice how to act should we be so unfortunate as to have a return of it the present year*. I have to request your excuse for so long delaying to give you this sketch: it has been owing to my being much from home.

The number of persons taken sick, whites as per this list, is	87
The number who died from said list (white)	45
	<hr/>
Recovered	42

The number of people of colour that were sick with the prevailing fever, was not less than	45
Died from that number, only	3
	<hr/>
Recovered	42

Total loss by the prevailing fever, 84 persons in 45 days.

Taken from the minutes kept by the Committee of Health.

J. SEAGROVE, Chairman.

St. Mary's, 21st March, 1809.

* Three physicians, Hitchcock, Turner and Stowell, were cut off by this fatal disease.

Some further Remarks on the Use of Mercury in Fevers.

By Dr. LEVI WHEATON, of Providence, (R. I.)

TO the account which I gave, on a former occasion, (see M. R. Hex. II. Vol. iv. p. 337) of the Yellow Fever which has appeared at different times in this town, I annexed some incidental remarks on the use of Mercury as a remedy.

These, I find, have furnished a text for an ingenious essay from Dr. Willey, of Block-Island; in the course of which he has betrayed some misapprehensions, which I will endeavour to correct.

I am represented as "strongly opposed to ptyalism, and

the use of mercury generally." From whence he has drawn this strange conclusion, I am at a loss to determine. In the publication alluded to, I have spoken of mercury as "a valuable medicine;" as "unquestionably one of the most powerful agents in the *Materia Medica*;" and I will add, that in a practice of more than twenty years, I have employed it in many cases with great freedom. In Syphilis, it would be superfluous to say, it is the only medicine upon which we can safely rely. In confluent small-pox, I have long since, and often, experienced its utility, above all other remedies. In cases of Dysentery, I have frequently given it with a view to ptyalism, and have generally found the disease suspended as soon as that effect was produced—a result equally striking I have repeatedly observed to follow the exhibition of Calomel in obstinate cases of Bilious Colic. Indeed, it is in these affections of the alimentary tube, that Mercury, when it salivates, has, I think, most evidently discovered its remedial powers, whilst its great efficacy, in several other disorders, cannot be questioned.

No—it was rather against the *abuse*, than the "use" of Mercury, that my observations were directed. The amount of what I have said on that occasion may be summed up in few words—"that Mercury given with a view to ptyalism, is an inadequate remedy in Yellow Fever, both because the ptyalism, if it promised to be a remedy, cannot, in bad cases, be seasonably excited—and a large proportion of patients treated in this way, have consequently died—and because, when it happened to supervene, it might be considered rather the consequence, than the cause of convalescence—that, in milder grades of fever, it is inapplicable for the additional reason, that they are generally to be controlled by milder and safer means—since the salivation is sometimes in itself a distressing, mischievous, and unmanageable complaint, and ought not therefore to be resorted to on trivial occasions; and *lastly*, that from the currency given to the use of mercury of late years, by the writings of some eminent physicians, it has been much abused in practice; having become with many a sort of panacea for almost all disorders, and being given without measure or discrimination, to the present and future injury of the constitution."

Some of these remarks I know, from abundant observation, to be well founded. Of the absolute inutility of the

mercurial practice in fever, I have rather intended to suggest a doubt, than to make an unqualified "assertion."

I have supposed it possible there might be some fallacy in the experience of physicians on this subject. I have attempted to shew how this might happen, and by way of illustration have stated one of many cases, wherein symptoms of amendment were observable before any signs of ptyalism—and although doubts, thus originating, have amounted to something like conviction in my own mind, I am not unaware, that in the practice of physic, as in other cases,—

"To observations which ourselves we make,

We grow more partial for the observer's sake"—

and do not hold myself responsible to defend this *heretical* doctrine against every assault—and certainly not against the force of truth and evidence. In the meantime, to check the currency of opinion by a little seasonable scepticism, to induce physicians to re-examine facts and conclusions upon a very interesting subject, however it may expose the writer, is not likely to injure the cause of medical science. As a proof of this, I might cite the "Dissertation" of Dr. Willey, in defence of this practice.

He has disposed of my principal objections to it, by some ingenious remarks and opinions, which, whether true or unimportant, it would not be necessary to examine, if he is correct in his appeal to "facts," as affording "a decided answer to all objections." In addition to his own testimony, in favour of the salivating plan, he has quoted a number of respectable authorities from the Medical Repository; and he might have added that of Dr. *Chisholm*, and of Dr. *Rush*, who probably originated the practice.

Now this is precisely what I anticipated, when I observed, "that the objections which I had ventured to make to the mercurial practice in Yellow Fever, would be readily confronted by a multitude of *supposed* facts, which I should be called upon to disprove." The accuracy of these reports is indeed the principal point at issue. If there has been no fallacy in the facts and conclusions published on this subject, I will readily wave all objections raised upon the inconveniences attending the practice, as trifling and unimportant, when compared with the disease in question—regretting only that we have not discovered a remedy more generally successful. And it must be confessed that the respectable testimonies adduced in its favour, would be more than sufficient to establish an ordinary fact. But (to adopt the sentiments

of a late judicious writer) "the evidence that is requisite to prove, or disprove, any proposition in the science of medicine, is of a peculiar kind. It differs entirely from that species of proof which satisfies a court of law. Both direct and circumstantial evidence, which would leave no doubt in the breasts of Judges and Juries, have often not the slightest tendency to render a medical fact even probable. The reason of which is, that distinctions are not always accurately made between *opinion* and *fact*. When we assert that a patient has been cured of a particular disease by a certain remedy, we are apt to think we are declaring a fact which we know to be true: whereas this assertion includes two opinions, in both of which we may be mistaken. The *first* is an opinion of the nature of the disease specified; the *second*, that the medicine employed *did actually remove the disease*."

Upon the first of these it might be thought illiberal, and it is not to my present purpose to insist; although I might repeat, that amidst the consternation excited by the Yellow Fever, medical reports have not always been made with the same coolness and discrimination as on common occasions. It is upon the latter ground chiefly, that I have ventured to suggest a doubt in the present instance. For if the observation be just in general, it will apply with peculiar force in the case of fever, where the disease is so often seen to cure itself, either by the elimination of the febrile miasmata, or by the constitution becoming impassive to their further action.

It is mostly in cases where, from the known character of the fever, its duration is *manifestly shortened* by the remedy applied, like the operation of the bark in intermittents, or bilious remittents, or of the cold affusions of Dr. Currie in typhus fever, that we can speak with entire confidence of its *febrifuge* powers. How superior in degree, for example, is the evidence we have of the virtues of Mercury in Syphilis, Tetanus, or even Dysentery; diseases which, without the interference of art, are so uniformly seen to progress from bad to worse; to that adduced in favour of the practice in question?—The conclusiveness of which, too, is rendered doubtful by the fact stated, that symptoms of amendment do *sometimes* precede the ptyalism, in a way to invert the order of cause and effect, upon which the practice is founded. I have rested this fact upon my own observation, without seeking the support of authorities. I

could but observe, however, in the same number of the Medical Repository which contains Dr. Willey's communication, a case of anomalous fever, stated by Dr. Schoolfield, where, although mercury had been given with a view to ptyalism, his patient was evidently convalescent for more than a week, before his mouth became affected; and it is not unlikely such reports would be more frequent, if there was less prejudice in favour of the doctrine.

If the "torpor of the absorbent system," or whatever else gives to the constitution an inaptitude to take on the mercurial action, is "an adventitious symptom," we should have better evidence of its power of controuling fever, when not accompanied with this circumstance, for we find that the state of fever, and of ptyalism, are not incompatible conditions; since, in the case of hectic and some other fevers, a salivation may be readily excited, and continued without the smallest beneficial effects.

On the other hand, that this torpor, or whatever gives this inaptitude, is not "an adventitious symptom merely," but an essential part of the disease, is rendered probable by the fact that it so generally prevails in bilious, and other continued fevers, to which this practice has been transferred, and where there is a like difficulty in exciting a ptyalism: affording a strong presumption that this ptyalism, when it takes place, is in consequence of a subsidence of the disease; or, in other words, of a return of the constitution to its wonted susceptibility.

How this effect follows, whether from a portion of the medicine detained "at the bibulous mouths, or glands of the absorbents," I shall not undertake to determine. The case may be neither; for, although mercury may have entered the system, in the most free and perfect manner, I do not see that a ptyalism must necessarily follow. If "Idiosyncrasy" can prevent it in some cases, and a diseased viscus in others, certain derangements induced by *fever* may, during their continuance, be supposed equally capable of suspending this operation.

Dr. Willey has considered "the different affections of the mouth, which commonly pass under the name of Salivation," under three heads. The first is, as he would have it, "a soreness and tumefaction of the mouth, with an increased discharge of Saliva," and is therefore the effect of Mercury; but the last, "a tumefaction of the throat and

sides of the mouth, with *gangrenous ulcerations*, and little or no spitting," is otherwise.

But whilst he has shewn himself so well acquainted with the *phenomena*, which have sometimes awakened "the prejudices of grand-mothers, and the hoary-headed sons of Esculapius," I wish he had been more successful in deriving them from any other source than the *mercurial action* on the mouth: for it is idle to lay stress upon the word *Salivation*. Who ever witnessed these appearances but in cases where mercury had been used?—except, indeed, in a specific disease, like Angina Maligna—or what practitioner, after a liberal use of this medicine, would look beyond it for the cause of such effects?

These are some of the disagreeable consequences, which every physician, of much experience, must have *occasionally* seen follow the mercurial course, and will have the proper influence on his practice;—but they will not, nor should they, deter him from the employment of this valuable remedy, whenever the occasion shall justify it.

—Si dignus Vindice nodus
Inciderit.

It appears to me, however, that it is not in *Fevers* that mercury has given the best evidence of its singular power of breaking the catenation of morbid actions, or of substituting a vicarious disease; and that high as its reputation deservedly stands in the cure of many disorders, there are others, over which it has no controul; and some, in which it is manifestly hurtful: so that, we are not authorised to consider it—the *universal medicine*; nor, perhaps, even to conclude, with Dr. Willey, that it is likely to supersede a *great part* of the *Materia Medica* now in use.

Baltimore, March 17th, 1809.

THE inclosed Essay, as you will perceive from its date, has been written some months; but as it is respecting one of those diseases which have visited the human race for ages, and will, it is presumable, continue to do so, as long as we shall be subject to disease, it cannot be thought out of date. Should it be considered worthy a place in your invaluable work, it is at your disposal.

With esteem,

I am

Most sincerely yours,

G. WILLIAMSON.

Dr. S. L. Mitchill.

OBSERVATIONS on the INFLUENZA of 1807, as it appeared in Maryland. By Dr. G. WILLIAMSON, of Baltimore: In a MEMOIR read before the MEDICAL LYCEUM of that city.

THE subject of this Essay may be thought too trite to be interesting; but I conceive any medical subject, which remains in any respect unknown, interesting to the medical philosopher. The empiric may argue that it is immaterial what the cause of a disease is, or how it originates, provided we know what it is, and how to cure it: but it is desirable to be acquainted with the cause, which frequently makes known to us its genuine nature, and indicates the proper treatment. I dare not hope to elucidate much the subject of this essay; and yet am willing to believe that I can say something interesting, if nothing new, respecting it. We sometimes stumble on great discoveries without having the most faint prescience of them; but we more frequently arrive at them by profound study, minute examination and correct observations. So long as a disease remains in any respect unknown, so long is it the duty of the practitioners of medicine to make every effort to hunt it from its tomb of obscurity; and although some diseases are so completely entombed in obscurity, as to have baffled the greatest sages of every age and people, and thereby apparently bid defiance to a further investigation, yet we should not, I think, be discouraged. The royal oak is not felled by the first stroke of the axe, but by repeated ones all its majesty is laid low. And when we take a retrospective view of all the great discoveries and

improvements which have been made in our science, we should despair of nothing which rational men can hope.

In treating of this disease, I have retained its old name; a name given it when superstition invaded even the science of medicine. Before the days of Hippocrates, and "whilst it was the general opinion of philosophers, that all things upon earth were governed by the Heavens, physicians imputed the *epidemical, catarrhus semi-pestilential fever* to the influence of the stars; whence the Italians gave it the name of "Influenza." I have retained this name because I think it the most generally understood, and not because I am fond of retaining the marks of superstition; for I think every vestige of it ought to be expunged from medical literature.

ON THE INFLUENZA.

In an age of inquiry, like this, it is rational to suppose that the disciples of medicine would be particularly solicitous to become acquainted with the causes of diseases in general, and epidemics in particular. These constitute a large proportion of the diseases to which the human system is subject, and are justly the cause of extensive and interesting inquiry.

The last two years have been pregnant with epidemics, and have consequently been exceedingly interesting to the medical philosopher.

Amongst the number of persons who have written on the influenza which prevailed last year, but few, if any, have accounted for, or even attempted to account for, its origin. Is it one of those subjects which must forever remain a mystery? or is it only to be accounted for in that vague manner which appears to be the fashion of the day? or to be attributed to some unknown cause floating in the circumambient atmosphere? Reasoning from philosophical principles, it appears rational to suppose, that the origin of epidemics ought to be accounted for, and that in a satisfactory manner. But the language of experience to the medical enquirer, seems to have been "thus far shalt thou go, and no farther."

Owing to the multiplicity of business which I was engaged in last year, from my private practice with that of the Dispensary, I was prevented keeping a diary of the weather, nor was I able to be as particular with my observations and

history of diseases as desirable. These reasons are sufficient to deter me from attempting what I am so solicitous to see accomplished. I am, however, induced to believe that the sudden transitions of the weather had a very material effect, as respects this disease. Last year the spring was remarkable for being cool: as late as May there was frost: it was

“ Winter ling’ring in the lap of May;”

and although there were some hot days in June, yet there was much cool weather even after this. Never did I experience such sudden, frequent and great changes in the weather, as during the spring and summer of 1807. After the summer commenced, days as cold almost as winter occurred, as though they had been transposed from January to June: one day the thermometer would be from 80° to 90° and the next not above 70°. This was so much the case, that it was almost impossible to dress to suit the climate: one day a summer dress would be scarcely cool enough, and the next a winter one not too warm. These transitions were remarkable throughout the season; but not as much so in July and August as in the preceding months; and soon after the influenza made its appearance, there were several weeks of very warm weather.

I must undoubtedly consider the influenza as a species of catarrh: many of the cases that came under my care differed but little, if any, from the ordinary catarrhs to which we are annually subject. That a sudden transition of the weather is an active cause in producing this disease, is a truth so universally known, that to give a single case to prove it, would be imposing upon you.

The influenza being considered as a species of catarrh, is not novel; it was the opinion of Hippocrates, and by him termed *febris catarrhalis epidemica*; and it was known and mentioned by that name until the days of Sydenham, who called it *tussis epidemica*. In fact I believe all the eminent authors who have written on it, have considered it as a species of catarrh; and many of them have supposed it owing to a sudden transition of the weather. Sydenham was doubtless of this opinion, for in speaking of the epidemical catarrh of 1675, he says, “ In 1675, the season having continued unusually warm until towards the end of October, and being suddenly succeeded by cold and moist weather, a cough became more frequent than I remember to have known it at any other time, for it scarce suffered any one to escape, of

whatever age or constitution he were, and seized whole families at once." It was formerly supposed that catarrhs were owing to a transition from heat to cold, as is thus expressed by Van Swieten ; " which disorder never happens more frequently than when the body is suddenly exposed from a warm to a cold air." Cullen considered cold the remote cause of catarrh ; and this I believe has been the generally received opinion since his day. Heat is a powerful stimulus and one essential to the support of animal life. When a sudden abstraction of heat occurs, the excitability of the system is suddenly accumulated, and much more easily excited to disease than when a gradual accumulation takes place. As heat is an active and powerful stimulus, its effects when suddenly increased to a great degree, must be deleterious to a system whose excitability is much accumulated ; and whether we are to consider the stimulus of heat acting on the schneiderian membrane, whose excitability has been greatly accumulated by the abstraction of heat, as the immediate or exciting cause of catarrh, or whether we are to consider it owing to reverse sympathy, or to some unknown power it has on the system thus predisposed to disease, I feel not disposed to determine ; but believe that a catarrh may originate in the nares and from thence progress through the trachea into the bronchia, &c. by direct sympathy, or that it may be owing to reverse sympathy (which is perhaps the most frequent cause) that is, that in consequence of a torpor of the cutaneous capillaries, those of the mucous membrane of the nostrils act with increased energy, and thence secrete more mucus from the blood.

Nothing has a more powerful effect in producing this torpor, than sudden transitions of the weather, especially from heat to cold. Were I to give a definition of the influenza, I would give Cullen's of catarrh, with some addition. He defines the catarrh " an increased excretion of mucus from the mucous membrane of the nose, fauces and bronchia, attended by pyrexia." Cough he considers always attending the chief form of catarrh ; but a cough is so often a symptom of many other affections, which are very different from one another, that it is improperly employed as a generic title in this disease. I would however consider cough a general symptom in the influenza ; also cephalalgia and ophthalmia, with a defluxion of rheum from the nose and eyes ; a depression of animal spirits with great general lassitude ; a pain and soreness in the muscles, especially the extre-

mities, were also generally concomitants, and frequently harbingers of the influenza. I hope not to be misconstrued, and be thought to suppose this disease nothing more than an ordinary catarrh, for such is not my opinion. In several respects they differ materially, although most of the symptoms which are common in the influenza may occur in a catarrh; yet this is but seldom the case, and when they do they are almost always much slighter in the latter disease. Common catarrhs, when even epidemic, are not so general as the influenza; the affection of the head and eyes is generally slighter; depression of animal spirits not so great, nor that general lassitude so considerable.

All epidemics put on a great diversity of appearance, and perhaps this is never more remarkably the case, than in the disease in question. Some of its diversities shall be noticed by and bye; at present we will attend to the disease in its regular form.

PERSONS SUBJECT TO THE INFLUENZA.

In my practice, infancy appeared exempt from this disease; not having, as I remember, seen a person with it under ten years of age—from ten to fifteen but few. After this period they were generally subject to the disease.

PROGRESSION AND DURATION.

It commenced about the 12th of August. From the 20th August to the 10th of September, it was prevalent. From this period it gradually declined, and by the 20th had nearly disappeared; yet some few cases continued to occur several weeks after this. Although this disease appears to have visited all America, yet it progressed with tardy steps in some directions. At Ellicott's lower mills, distant 9 miles from this city, it did not appear until about the 29th of August; but it soon communicated from family to family, until nearly all the inhabitants of that village were affected. Twelve of one of the families had it at the same time; and in this city, especially amongst the poor, on going into their dwellings, the appearance was more like that of an hospital than a private family.

(To be Continued.)

An ACCOUNT of the YELLOW FEVER, as it appeared at STABROEK, in the COLONY of DEMARARY, during the principal part of the years 1803 and 1804. By Dr. WILLIAM FROST, physician at that place; addressed to Dr. JEREMIAH BARKER of Portland, and by him communicated to Dr. MITCHILL.

(Continued from p. 29.)

PROGNOSTICS.

IN most instances, a copious effusion of blood from the nostrils was indicative of hazard, and the forerunner of death. Spitting of blood without any evident pyalism; vomiting of blood or discharging it by stool, were symptoms always portentous of danger; and also the discharge of blood from the puncture in the arm, after blood-letting, if it happened two or three days after that operation had been performed, when it was presumable the orifice had closed.

Petechiæ, if they made their appearance early in the disease, were infallible signs of death on the third day. If there happened to be any wounds or sores of any description on a person, when under the influence of this fever, and they assumed a livid or black complexion, or looked as though they had been seared with a hot iron, as sometimes was the case, I always considered my patient as being but a few steps from eternity; and no less dangerous, if the blisters that were applied occasioned no sensations of pain, or turned livid or black.

The earlier the *yellow tinge* came on, proportional danger was denoted. If it did not make its appearance till the seventh day, it carried no terrors with it, although it was not a certain prognostic of life. Yellowness of the skin was by no means a constant attendant of this disease. Many died without the least appearance of a yellow tinge, and had every other infallible symptom of this fever. Sometimes the yellowness was universal; while at other times it was confined wholly to one part, which was either to the adnata of the eyes, the forehead, neck or breast, or to all these parts only.

There was a *universal lividity* in some a short time before death, and in others singular and remarkable *livid* or *purple spots* made their appearance on different parts of the body. An uncommon instance of this kind occurred in Charles Wentworth, mate of the American brig the Centaur, of pur-

ple spots the size of a ninepenny piece, alternately appearing and disappearing all over his body, for one whole day, in the third stage of the fever. The skin would then assume a yellow hue generally. He however recovered, and in his convalescence was as yellow, universally, as an orange. I can truly say he was the yellowest person I ever saw.

Bloody eruptions of a dark brown colour, that arose in the first stage of the disorder, were alarming. But if the fever was in a progressive state, and other symptoms were of a favourable nature, eruptions that broke out around the mouth and were surrounded by a red margin, increased the hopes of a salutary crisis.

Great indeed was the danger, when the *strength of the disorder was seated in the internal and more noble organs of life*, and acted on them in an inflammatory manner.

Flatus of the stomach or bowels, with frequent eructations and nausea, without vomiting, always portended danger. I saw two cases only of uncommon flatus of the stomach, both of which terminated in death unexpectedly.

From *black, flaky vomiting*, or when the liquor vomited assumed a chocolate or coffee-ground complexion, the greatest danger was to be apprehended.

The more vehement and outrageous the *delirium*, the deeper and more powerful the *coma*, the more imminent the hazard.

A *strong pulse* indicated a much happier crisis than a debilitated soft pulse. For too much *action* can be lessened, while *atony* scarcely admits of a remedy, especially when the stomach is in a high state of irritability.

When this fever was ushered in by *convulsions*, great indeed was the danger of a fatal issue.

I never knew but four instances of recovery, where the patients were affected with *hiccups*.

Two *tetanic* cases occurred to me, and both terminated in death; one on the third and the other on the fifth day.

Loss of memory, weeping, facetious delirium, an impediment and *difficulty of speech, restlessness* and a continual inclination to sit up or get out of bed, are symptoms no less ominous of danger, than those already enumerated; as well as a *dilated or preternatural contraction of the pupils of the eyes*.

If *rigors* supervened at the onset of this fever, its progress was generally more mild and favourable. But some-

times the attack commenced without any rigors or previous notice, "with a flash of heat, as sudden as a flash of lightning," (as the patients expressed themselves) with all its accompanying symptoms. Sometimes when it attacked in the latter mode, the skin would be for a minute in a profuse sweat, and suddenly dry up again, and leave the surface without the least moisture. The greatest attention was requisite to be paid to a patient when seized in this manner; and all the skill and power of physic must be summoned up, and that immediately, to extricate him from the jaws of death.

A black, sooty, or a dry cracked *rough tongue*; a clean, smooth, shining, dry tongue; a lead-coloured tongue, and divided longitudinally in the middle, with a seam from its extremity to its base; tremor in the tongue on thrusting it out of the mouth, or in other words, its being spasmodically affected; a red inflamed, but dry and rough tongue, and when on rubbing the finger over it, a sensation was imparted similar to rubbing it over a shark's skin; the *lips, teeth and gums* covered with black sordes; the *saliva* adhering to the angles of the mouth in the form of paste; *greasy or oily sweats*—If any or all of these symptoms appeared in any one patient, his case was considered hazardous, and it generally terminated fatally.

The *appetite*, in some, was voracious a short time before death. They appeared to eat with as good a relish as a person would in perfect health.

It may be numbered among the *most favourable symptoms* of recovery, when the patient passes into the second stage with a decreasing coma; cessation of vomiting; increased strength of pulse; and an augmentation of the heat of the extremities, accompanied with warm sweats, easy respiration and a brightness of the eyes. When these symptoms were present, I never despaired of my patient.

(To be Continued.)

 REVIEW.

The Substance of a Report, read before the Georgia Medical Society, by a Committee of its Members, Feb. 4, 1809. Savannah. Everitt and Evans. 8vo. pp. 34. 1809.

IN obedience to a resolution of the Medical Society, three of its members have reported their opinion, on the injurious consequences which result to the inhabitants of Savannah, from planting the low grounds with rice; and on the probable consequences of a change in their system of cultivation. And at the request of the inhabitants, it has been published for more extensive information.

It appears that the lower region of Georgia, on the waters of the Savannah river, is very much employed in the culture of rice. This is not the upland species, which may be raised with as little detriment as wheat or maize; but that other sort, for which fertile alluvial tracts, and a plentiful supply of water is requisite. The operation of the inundation upon the black soil which it overspreads, upon the weeds with which the soil teems, and upon the rice-plants themselves, predisposes to unhealthiness. When the water is drawn off, insects, worms, creeping things, and sometimes, it is said, fishes are left behind on the fields to perish and putrify. The rays of the sun acting upon such a collection of vegetable and animal matters, quickened by heat and penetrated by moisture, form new combinations of elementary particles, and exalt them into vapours and gases. Experience has shown that these, or at least some portion of them, are unfriendly to the health, and sometimes even destructive to the life, of man. The story of the serpent Python, is a tribute of applause to Apollo, for the benefit he conferred on Egypt, by exsiccating the mud of the Nile. The legend of the monster Hydra, is an expression of gratitude to Hercules for draining the marsh of Lerna in Peloponnesus, and rescuing the neighbouring inhabitants from febrile diseases. If our interpretations of these ancient allegories are correct, and we are confident they are, then it will appear that muddy and swampy surfaces ought to be dried; and this was found to be a salutary operation from the earliest dawnings of history.

It is contended in the report before us, that neither the

plan of Savannah city, nor any thing within its limits, can properly be charged with its autumnal sickness. From a retrospect of the state of the country, in regard to health, before the hand of European emigration began to work upon it, the gentlemen conclude that it enjoyed a salubrious atmosphere. Until the rice-cultivation was introduced, about twenty years after the first settlement in 1733, all was well. After that business began, the air became vitiated and sickly, to a degree unknown before. And this contamination has kept pace with the extent of surface alternately drowned and dried, under the pernicious culture of that excellent grain. In consequence of this conviction, they recommend a radical change in the plantations upon the islands and the low grounds in the neighbourhood of the city, by discontinuing the propagation of rice, and the substitution of grasses and such vegetables as do not require the presence of stagnating water, to wit, vines, Indian corn, oranges and figs, which they are inclined to suppose might be reared, with signal advantage.

The case is so plain, and the subject of such reiterated experience, that the testimony bears the marks of conclusiveness. If the people of Savannah would enjoy the exemption from febrile distempers, which their early predecessors experienced, they must kill the Pythons and Hydras of their low grounds. Exsiccation is the object, and it may be obtained by evaporation, by draining, or by banking. The latter is the most adviseable, because by keeping the water away, it acts as a preventative; the second has the advantage of carrying off the redundant water, by ditching instead of exhalation; while the former, which removes it through the medium of the atmosphere, dries the fen indeed, but during the operation exposes the inhabitants of the vicinage to its septic effluvia.

When therefore the proprietors near Savannah shall consult health at the expence of a little profit, and keep their low lands gently irrigated for growing of grasses and corn, instead of being flooded for rice, they may expect a change of atmosphere for the better. And until this shall be done, the inhabitants may expect an annual visitation of their endemic distemper. They may hear with comfort the proceedings of two counties in New-York; that of Saratoga, in which the public authority forbids the ponding of water by dams, on some of the streams during the hot season; and that of Orange, in which the extensive tract called the

"Drowned Lands," near the Wallkill, is undergoing the operations of ditching and draining by virtue of a legislative act.

The city of New-York affords an instructive example of the noxious quality imparted to the atmosphere, by water stagnating on rotten materials; and of the corrective of that mischievous taint by drying and cleansing the polluted places. The labour and expence incurred in removing the nuisances, and preventing their re-accumulation, was excessive; but the people bore it not only with patience, but with cheerfulness, for the sake of restoring the character of healthiness to their dwelling place. To show our southern brethren how fully we accord with them in their general views, we would propose for their consideration two public papers of New-York, in which these matters are fully discussed; the one is the Argument on the Soap-boilers Memorial at Albany, which is re-published in Trotter's *Medicina Nautica*, and in *Valentin's Traité de la Fièvre Jaune d'Amerique*; and the other, a Report to the Executive on the origin and causes of the local and febrile distempers of New-York; which has been also translated into French, and extensively circulated in the English language. We mention also for their consideration, the volume of weighty evidence on their side of the question, which contains the discussions that took place at Rome about the beginning of the 18th century. In this they will find how many of the Italian cities were almost depopulated by the noxious exhalations of their marshy and undrained lands, and how by removing filth and humidity, health was restored to the inhabitants.

Were we not fearful of doing more on the subject than the occasion requires, we would recommend to their consideration, in addition to the demonstrative tracts of Lancisi, the careful memoirs of Rammazzini, the correct delineations of Cleghorn, the profound investigations of Senac, the experimental accuracy of Leblond, and the faithful descriptions of Moseley.

Indeed all experience shows that man has a considerable controul over the atmosphere. By his agency in arresting the course of water over a rank and muddy soil, during the prevalence of intense sunshine, the incumbent air receives a charge of sickening exhalations; and again, through his instrumentality preventing the stagnation of the floods, and restoring dryness to the surface, the atmosphere loses it

subtil poison, and the ground becomes incapable of furnishing it with more.

As to the particular constitution of the atmosphere, which predisposes to the feverish forms of disease, doubts may be reasonably entertained on the subject. Although much has been accomplished in analysing the fluid we breathe, much also remains to be done. And until the philosopher shall more clearly understand what may be called its healthy constitution, he can but imperfectly comprehend its morbid states. We however never found reason to believe that its unhealthiness was owing to the subduction of its oxygenous respirable portion. On the other hand, its deleterious quality seems to arise from something emitted into the atmospheric mass. Like smoke or perfumes extricated in a chamber, the miasmatic exhalation diffuses itself through every part, without requiring any previous subduction of the oxygenous gas. To the materials thus added, and not to oxygen subtracted, is the latent mischief to be ascribed.

Carbonic acid air is a common product of putrefaction. Both animal and vegetable substances afford it. Inflammable air is also evolved in considerable quantity from organic decomposition. Its affinities are very numerous. Not only sulphur, phosphorus, carbone and arsenic combine with it, but most of the metals. By its singular levity, it can mount to the clouds, and carry the heaviest of terrestrial bodies in solution along. This makes almost an endless variety in the composition of the atmosphere. These solid and ponderous *substances are precipitated whenever the menstruum takes fire.* Water is another ingredient which mingles with the atmosphere. By chemical attraction it is lifted from the earth, above the tops of the highest mountains. But it does not ascend alone. It carries with it silicious and calcareous matters, which it restores to the source whence it borrowed them, ordinarily in rain, and occasionally in meteoric stones. But this is not all. Azotic air escapes from many decaying bodies, and adds its bulk to the other atmospheric materials. It was supposed by Mitchill as long ago as 1795, that azote was a metal. "Quicksilver," said he, "is a metal, maintaining fluidity under the common circumstances of terrestrial heat and atmospheric pressure. May not azote be a metal existing under the same circumstances of warmth and weight in a vaporic form?" The researches of Davy seem to have established the reality of that early opinion; and proved that this

ingredient of the air in which we move, is metallic. It has been tolerably well ascertained, that this aeriform metal when united to phlogiston (hydrogen) forms ammoniac. This is the phlogisture of azote. And it has been maintained by our countryman, that this same gaseous metal, when combined chemically with oxygen, constitutes a deleterious fluid. By this he means not that artificial thing, that creature of the laboratories, which under the name of nitrous oxyd, is employed to exhilarate and madden the human species; but that other product, which is a natural compound, the offspring of the out-of-door elements, which possesses activity and power to hurt, like the oxyds of mercury, arsenic, and the other metals, and distinguishes itself from them all, by a peculiar power to stir up febrile commotion.

We however forbear to pursue this subject any further. It is not necessary to dwell longer on a doctrinal point, or to state the reason wherefore this metallic oxyd, composed of azote and oxygen, is incapable of detection in the eudiometer, by the test of nitrous air. We rather leave these controversies to the chemists. And we believe the true constitution of the atmosphere to be too imperfectly understood for any one to assume a positive or dogmatic tone touching this matter. While therefore, these scientific and speculative topics are undergoing their orderly discussion, among observing and experimental men, it will be safe and wholesome to avoid all exhalations which experience proves to be noxious, be their chemical composition what it may.

We conclude our remarks by a quotation, which contains some account of the topography of Savannah, and exhibits a fair specimen of the talent of the learned and ingenious penman who drew the Report.

“ When you ascend the steeple of the Exchange, and view the agricultural condition of the borders of the city, two-thirds of the prospect present you with an exhibition of the *sources* of its autumnal insalubrity, (in vain sought for within its limits) and your mind is satisfied with the solution here offered of the questions—what has changed the original purity of its atmosphere? and what continues to increase its unhealthiness? The moist flats and stagnant pools and ditches of Springfield and Valeroyal, and the rice fields on the southern bank of the Savannah river, present themselves on the west and south-west: Hutchinson’s island, under the culture of rice, on the north-west, north, and north-east; while the south-eastern view takes in the marshy low-

grounds about Five-Fathom, and the rice fields extending from Mr. Turnbull's to town. Clothed with the investments of nature, these places were originally pure, and emitted the fragrant breeze of health; but the ill-directed labours of our planters, in altering the plan of nature, and arranging their own, without the consultation of reason, have converted them into laboratories of disease one third of the year. After their invasion of the bog and of the swamp, by felling the umbrageous and prophylactic canopy that concealed them, that fatal enemy of mankind, who had been starved out of Europe by the *draining* and *cultivation* of its soil, and who, in this country, had heretofore slumbered in the state of torpor and hybernation, the *pestilent* and *insidious Python*, received the warm, stimulating nutriment of the sun, and was soon resuscitated into life. Within this topographic amphitheatre *now* are multiplied and aggregated *all* the circumstances we have stated, as prone necessarily to obey the laws of the pestilential and putrefactive fermentation, when subjected to the government and action of the summer heats. Here is water stagnant and at rest, moistening to the fermentative point the soil, abundantly supplied with the decaying exuviae of animals and vegetables. June and July apply the Pythian match to this putrid mass. The inflammation enlarges as the year progresses, till the colds and frosts of November contract and extinguish it. Nursed to maturity *in this cradle* by a depuration of the incumbent atmosphere, this fabled monster of ancient Greece, about the first of August, unfurls to the winds his morbid banners. From the middle of July to the middle of August, he is dressed in the livery of the mild remittent, or ague and fever; through September he is clad in the armour of the more fatal bilious remittent; and lastly, in October, he frequently assumes the lethiferous weapons of the deadly yellow fever."

The OHIO and MISSISSIPPI NAVIGATOR; with a general description of the different Rivers which run into them.
8vo. pp. 64. 1804.

ALTHOUGH this pamphlet was published so long ago, a desire to render our work the magazine of as much of the physical geography of the United States as we conve-

niently can, induces us to notice the instructive and practical account it contains, of the internal navigation of the Western Regions. Directions to persons ascending or descending the great rivers which flow through the states of Pennsylvania, Kentucky, and Ohio, and through the territories of Indiana, Illinois, Louisiana, Mississippi, and Orleans, are necessarily of an interesting nature. And when we consider the relations they bear to the commonwealth of New-York and Virginia, and to the whole Commonwealth of Tennessee, their magnitude and importance are proportionably increased. Whether we trace the progress of migration from the Atlantic to the interior, or seek a communication for articles of domestic growth to distant markets, and for materials of foreign manufacture to the recesses of our own country, the contents of this manual are worthy of special consideration.

The author treats of the Monongahela from its source at the foot of the Laurel Mountain in Virginia, and of the Alleghany from its origin in the Chatauge lake of New-York, to the formation of the Ohio by their junction at Pittsburgh. From Morgantown, the head of navigation on the former, the distance by estimation is 107 miles; and from Erie, the highest situation on the latter, 300 miles to the place of their junction. From this point, called Pittsburgh, the distance along the channel of the Ohio is, to Wheeling 86 miles; to Marietta, on the Muskingum, 182; to Gallipolis, 279; to Cincinnati, opposite the mouth of Licking river, 493; to the Falls of Ohio, 667; to the Mouth of the Wabash, 949; to the Mouth of Tennessee, 1055; to Fort Massac, 1067, and to its union with the Mississippi, 1096. From the Mouth of the Ohio to New Madrid is 43 miles; to the lower Chickasaw Bluff, 151; to White River, 389; to Arkansas, 409; to Yazoo River, 592; to Bayou Pierre, 663; to Natchez, 709; to Loftus's Heights and Fort Adams, 762; to Red River, 777; to Point Coupee, 850; to Baton Rouge, 903; to Manshac Church, 936; to New-Orleans City, 1032; to Fort Plaquemines, 1097, and to the Disembogement of the Mississippi, 1140. So that the whole distance from the Head of Monongahela to the Gulf of Mexico, is 2348 miles, and from the Upper Station on the Alleghany, 2536.

To this abstract of the work, we add the author's description of the Four Great Rivers, with a sketch of his instructions.

MONONGAHELA.

“ This River takes its rise at the foot of the Laurel Mountain, in Virginia, hence meandering in a W. by E. direction, passes into Pennsylvania, and receives in its course Cheat and Youghiogeny rivers from the S. S. E. and many other smaller streams, and unites with the Alleghany at Pittsburgh, which two form the Ohio. The settlements on either side of this river are very fine and extensive; land is good and well cultivated. The appearance of the rising towns and the regular laid out farms on its banks, to those passing, is truly delightful. In fall and spring it is generally covered with boats, trading and family: the former being loaded with flour, whiskey, cider, apples, peach brandy, bacon, iron, glass, potters ware, cabinet work, &c. all of the produce and manufacture of the country, destined for Kentucky, New-Orleans, &c. The latter loaded with furniture, utensils, &c. for the cultivation of the soil. No scene can be more pleasing to a philosophic mind than this, which presents to his view, a floating town as it were, on the face of a river whose gentle rapidity and flowered banks add sublimity to cheerfulness, and the harmony of the sweet notes of the songster of the wood to the grumbling noise of the falling cataract.

ALLEGHANY.

Few rivers exceed this in the clearness of its water, and the rapidity of its current. It seldom happens that it does not mark its course across the mouth of the Monongahela in the highest of freshes. This is easily observed by the colour of the water, the water of the latter being always in freshes very muddy. In high freshes the junction of those rivers presents a pleasing view; the Alleghany sometimes flowing full of ice, and the other perfectly clear. It is pleasantly interspersed with cultivated farms and growing towns on its banks; and bids fair of becoming rapidly populously settled, from its mouth to its source. We may say, with propriety, that no country could have exceeded this, situated as it was with respect to the savages, for rapidity of settlement and increase of trade. The trade, up and down the Alleghany, has become an object of much importance to the lower settlements—there being a great demand for flour, whiskey, apples, cider, beer, bacon, glass, iron, &c. at the

different posts on the lakes, and by the inhabitants in the surrounding country. The salt that comes from Onondago, in the State of New-York, through the lakes, and thence down this river, is immense ; sufficient to supply all the western country.

This river heads near Sinemahoning creek, a navigable stream that falls into the Susquehannah, to which there is a portage of only twenty-three miles ; thence taking its meanderings, receiving many tributary streams, and, in about a south-west direction, joins the Monongahela at Pittsburgh, where, with the assistance of it, is formed the Ohio.

OHIO.

This river commences at the junction of the two above-mentioned rivers ; and here also commences its beauty. It has been described as “ Beyond all competition, the most beautiful river in the universe, whether we consider it for its meandering course through an immense region of forests, for its clean and elegant banks, which afford innumerable delightful situations for cities, villages, and improved farms ; or, for those many other advantages, which truly entitle it to the name originally given it by the French, of “ *La Belle Riviere*.” This description was penned several years since, and it has not generally been thought an exaggerated one. Now, the immense forests recede, cultivation smiles along its banks, towns every here and there decorate its shores, and it is not extravagant to suppose, that the day is not far distant when its whole margin will form one continued village.

The reasons for this supposition are numerous—The principal ones are, the immense tracts of fine country that have communication with Ohio, by means of the various navigable waters that empty into it ; the extraordinary fertility, extent and beauty of the river-bottoms, generally high, dry, and, with very few exceptions, remarkably healthy ; and the superior excellence of its navigation, through means of which, the various productions of the most extensive and fertile parts of the United States, must eventually be sent to market.

At its commencement at Pittsburgh, it takes a N. W. course for about 25 miles, then turns gradually to W. S. W. and pursuing that course for about 500 miles, winds to the S. W. for nearly 160 miles, then turns to the W. for

about 276 miles, thence S. W. for 160 miles, and empties into the Mississippi in a S. E. direction, about 1100 below Pittsburgh, and nearly the same distance above New Orleans, in lat. 36d. 43m. It is amazingly crooked; so much so, indeed, that in some places a person, taking observation of the sun or stars, will find that he sometimes entirely changes his direction, and appears to be going back again; but its general course is S. 60d. W. Its general width is from 500 to 1500 yards; but at the rapids, and near the mouth, it is considerably wider.

The numerous islands that are interspersed in this river, in many instances, add much to the grandeur of its appearance; but they very much embarrass the navigation, particularly in low water, as they occasion a great many shoals and sand-bars. The soil of those islands is, for the most part, very rich; the timber luxuriant, and the extent of some of them considerable. Where fruit-trees have been planted on any of them, they are found to thrive amazingly, to bear well, and seldom fail of a crop. Indeed, this is the case wherever fruit-trees have been tried in any of the river-bottoms; the soil of which, is very similar to that of the islands, though not quite so sandy.

In times of high freshes, vessels of almost any tonnage may descend; and it is never so low but canoes and other light crafts can navigate it. Many of the impediments that are at present met with, while the water is low, might in a dry time be got rid of, and that not at a very considerable expence; at least the expence would be by no means adequate to the advantages accruing from the undertaking, if properly managed.

Rocks that now, during the dry season, obstruct or render dangerous the navigation of the large flat-bottomed, or what are called Kentucky boats, might be blown, even a considerable depth under water; channels might be made through the riffles, and the snags; and the fallen timber along the banks, entirely removed.

These improvements, together with many others that might be enumerated, will undoubtedly, sooner or later, be carried into effect, as they appear to be a national concern of the first importance. In the mean time some general instructions respecting the present navigation, cannot but be found very useful to those descending the river, and who are unacquainted both as to the manner in which this voy-

age is to be undertaken, as also with the nature and channel of the different rivers.

MISSISSIPPI.

To speak of the beauty of this river, and the many advantages which it has over other rivers, does not come altogether within the limits of this book: suffice it to say, that few, and perhaps no river in the known world, surpasses it in either. Its source has never yet been ascertained; but it is supposed to be upwards of 3,000 miles from the sea, following its windings. From nearly opposite the Illinois river, the western bank of the Mississippi is generally higher than the eastern. From Mine-a-fer to the Iberville, the eastern bank is the highest. This river is so remarkably crooked, that, from the mouth of Ohio to New Orleans, in a direct line, does not exceed 600 miles; when, by water, the distance is about 1000 miles. In common seasons it generally affords 15 feet of water from the mouth of Missouri to that of the Ohio. In time of freshes a first-rate man of war may descend it with safety. The mean velocity of its current may be computed to about three and an half miles an hour. Its width is various, from 1 1-2 to 2 miles, if you except its mouth, which is divided into several channels or mouths, and which continually change their directions and depth.

INSTRUCTION.

Boats destined for the Mississippi should, as has been already observed in the introduction to the Ohio navigation, in every respect, be stronger and better roofed than those intended for the Ohio only; the Mississippi being of a much heavier* and stronger current, and presenting by far more obstacles and dangers in the way of the boat.

The most eminent of those dangers, are,

1. The instability of the banks.
2. Currents rushing out of the river in a state of its high waters; and,

* The waters of the Mississippi, from below the mouth of the Missouri, are, the greater part of the year, very muddy, being impregnated with a glutinous slime, which, in a pint-tumbler full of water, will form a sediment of something better than half an inch. To strangers, the water of this river proves a strong purgative, and is said to be a cure for most cutaneous diseases.

3. Planters,* Sawyers, and wooden Islands. We shall endeavour to instruct the inexperienced navigator how to avoid them. The instability of the banks proceeds from their being composed of a loose sandy soil, and the impetuosity of the current against their prominent parts, (points) which, by undermining them unceasingly, causes them to tumble into the river, taking with them every thing that may be above. And if, when the event happens, boats should be moored there, they must necessarily be buried in the common ruin, which unfortunately has been several times the case. For which reason, navigators have made it an invariable rule never to land at or near a point, but always in the sinuosity or cove below it, which is generally lined with small willows of the weeping kind, whence some call them, although improperly, willow-points, and which being generally clear of logs and planters, the landing is easily effected, by running directly into them, the resistance of the willows destroying a part of the boat's velocity, and the rest is overcome, without much exertion, by holding fast to the limbs, which surround you.†

The banks of this river,‡ from where it receives the Missouri to its mouth, being, with a few exceptions, below high-water mark, an immense country is inundated when the river is in its highest state, by which those extensive swamps are formed and supplied, which prove the nurseries of myriads of musquitoes and other insects, (to the no small inconvenience of the traveller) and the never-failing source of grievous diseases to the inhabitants. There are also streams, which at all times sally forth from the main river

* Planters are large bodies of trees, firmly fixed by their roots in the bottom of the river, in a perpendicular manner, and appearing no more than about a foot above the surface of the water in its middling state. So firmly are they rooted, that the largest boat, running against them, will not move them, but they frequently injure the boat.

Sawyers, are likewise bodies of trees fixed less perpendicularly in the river, and rather of a less size, yielding to the pressure of the current, disappearing and appearing by turns above water, similar to the motion of a saw-rail saw, from which they have taken their name.

Wooden Islands, are places where, by some cause or other, large quantities of drift wood have, through time, been arrested and matted together in different parts of the river.

† In those places the river generally deposits the surplus of soil, with which it is charged from the continual cavings of the points, and so forms new land on one side by destroying some on the other.

‡ On comparing the American cotton-wood-tree (which grows in large quantities on the banks of this river) with the Lombardy Poplar, they have been found to be the same, although some doubt their identity.

with astonishing rapidity, and whose vortex extends some distance into the stream. Boats, once sucked into such a bayou, are next to lost, it being almost impossible to force so unwieldy a machine as a flat-bottomed boat against so powerful a current. It will therefore be safest for boats never to keep too close to shore, but to keep some distance out in the river. To avoid planters and sawyers, requires nothing but attention; for they always occasion a small breaker wherever they are, and if your boat seems to be hurried towards them, you must, the moment you perceive them, row the boat from them, else, if you are dilatory, you must abide by the consequence.

WOODEN ISLANDS are more dangerous than real ones, formed a long time ago; the former being an obstacle lately thrown in the way of the current, and the bed of the river not having had sufficient time to form that bar or gradual ascent from the bottom of the river to the island, which divides the current at some distance from the point of the island above water, the current will hurry you against them, unless you use timely exertions. From all this, it must be evident how imprudent it is attempting to go after night, even when assisted by a clear moon; but after you are once arrived at Natchez, you may safely proceed day and night, the river from that place to its mouth being clear, and opposing nothing to your progress* but a few eddies, into which you may occasionally be drawn, and detained for a short time.

* In the Mississippi, from below the mouth of the Ohio, there are upwards of 300 islands, all of which are easily avoided by keeping a good lookout.

General Geography and Rudiments of Useful Knowledge.
By H. G. Spafford. Hudson. Croswell and Frary. 1809.
8vo. pp. 381.

AMONG the school books which have been published, the present holds a respectable place. Like works of that class, it does not so much aspire at originality, as to be an useful compilation.

The subjects treated of, are the solar system, and more particularly the planet we inhabit; the construction of maps and globes, and their uses; a summary view of chemical and mechanical science; geography in its historical, politi-

cal, civil, and physical relations, more especially that of the States of North America, and of their Territories; with a sketch of Chronology, and some useful Geographical and calculating tables. A map of the world and another of the United States, which he correctly distinguishes by the title of Fredon, accompany the printed text. A view of that part of the celestial constitution to which the globe we inhabit, belongs, and several illustrative engravings, also distinguish the work. More of this kind of embellishment is promised in the next edition.

We forbear to examine this book with detailed criticism, because a variety of other matters demands a place on our pages. But it would be unjust to dismiss the consideration of it, without remarking, that it is well calculated to inspire beginners with a taste for knowledge, and to prepare them for the higher and original sources of instruction.

Cases of Organic Diseases of the Heart; with dissections and some remarks intended to point out the distinctive symptoms of these diseases. Read before the Counsellors of the Massachusetts Medical Society. By John C. Warren, M. D. Boston. Wait & Co. 1809. 8vo. pp. 61.

PRACTICAL publications in medicine are of the first importance. They make us acquainted with the symptoms of diseases, and with the method of treatment. And next in value to those which teach us the cure of human maladies, are the books in which are recorded the faithful histories of morbid appearances, found by dissection. To ascertain the actual state of the organs after death, as it is one of the most difficult and unpleasant tasks of the physician, so likewise it ranks high on the scale of worth and utility. Bonetus, Morgagnus, Lieutaud, Haller and Bailie have enlarged the bounds of knowledge, and procured to themselves extensive and lasting fame, by the industry and success with which they have explored the phenomena of diseases, by anatomical research. To the like eulogy are entitled the useful, though almost forgotten labours of our American professor, Clossy.

Following the tracks of the worthies who have gained such honourable distinction, the author of the works now before us, has given to the public a valuable and instructive

memoir on the changes which the human heart undergoes by disease. He has related histories of ten cases ; and in addition to the symptoms observable during their progress toward the fatal termination, he has stated what were the alterations from the healthy state, discoverable by inspection of the bodies.

This disclosure is the more seasonable and welcome, inasmuch as it enlightens an obscure region of medicine. Affections of the thorax and more especially of the heart, have ever perplexed both physicians and their patients with irregular, anomalous and undefined symptoms. By a careful inquiry during life and after death, Dr. Warren has endeavoured to establish more certain rules on the subject. And whether these shall enable cures to be wrought or not, they will at least afford a clear discernment of the malady, the best prognosis of its termination, and the most certain means of prescribing for its relief. To perspicuous descriptions of the diseases in the present instance, are added clear narrations of what was eventually detected by the knife. And two elegant prints, done from drawings by Penniman and engravings by Edwin, illustrate the text.

From so many examples of cardiac ailment, examined with much care, Dr. Warren draws several important conclusions :

" Enumeration of the principal morbid changes, observed in the organization of the heart, in the preceding cases.

" Enlargement of the volume of the heart, or aneurism*.
 Increase of the capacity, or aneurism of the right auricle,
 of the right ventricle, } with thickened,
 of the left auricle, } or thin, parietes.
 of the left ventricle, }
 of the aorta, with thickening of its coats.
 Flesh-like† thickening of the mitral valves.
 of the aortal valves.
 of the aorta.
 Cartilaginous thickening of the internal membrane of the heart, and generally
 of its valves.

* Morgagni uses this term, which he borrows from Ambrose Pare, to express dilatation of the cavities of the heart. It seems to be as applicable to the dilatation of the heart, as to that of an artery. I have therefore adopted it in this enumeration.

† The term fleshlike is employed to express that roughness of the valves, which somewhat resembles flesh in its appearance, but which is very different from the thickening of the parietes of the heart.

" Ossification of the parietes of the heart.

. mitral valves.

. aortal valves.

. aorta.

. coronary arteries.

" *Enumeration of the principal morbid appearances, observed in these cases of diseases of the heart, which may be considered secondary.*

In the Cavity of the Cranium.

" Inflammation of the meninges.

Water between the meninges.

Water in the ventricles.

In the Pleura and its Cavity.

Inflammation and thickening of the pleura.

Collection of water in its cavity.

Lungs dark coloured.

..... generally very firm, and particularly in some parts.

..... loaded with black blood.

..... crowded into a narrow space.

In the Pericardium and its Cavity.

Inflammation and thickening of its substance.

Adhesion to the heart and lungs.

Collection of water in its cavity.

In the Cavity of the Abdomen.

Collection of water.

Liver very full of fluid blood.

..... having its tunic flaccid and inflamed.

Mesenteric veins full of blood.

Cellular Membrane full of water.

The Blood every where fluid, except in the cavities of the heart.

REMARKS.

" The symptoms, which are most observable, in some or all of the preceding cases, are the following:

" The first notice of disorder is commonly from an irregular and tumultuous movement of the heart, which occurs some time before any perceptible derangement of the other functions. This irregularity slowly increases, and arrives at its height before the strength of the patient is much impaired, at least in the cases which I have noticed; and as the vigour of the patient lessens, the force of the palpitations diminishes. These palpitations are often so strong, as to be perceptible to the eye at a considerable distance. They are seldom most distinct in the place where the pulsation of the heart is usually felt. Sometimes they are perceived a little below: often in the epigastric region; and not unfrequently beneath, and on the right side, of the sternum.

" After the palpitations have lasted some time, a little difficulty of breathing, accompanied with sighing, is per-

ceived, especially on any great exertion, ascending an eminence, or taking cold, of which there is an uncommon susceptibility. This dyspnœa becomes, as it increases, a most distressing symptom. It is induced by the slightest cause; as by an irregularity in diet, emotions of the mind, and especially movement of the body; so that on ascending stairs quickly, the patient is threatened with immediate suffocation. It occurs at no stated periods, but is never long absent, nor abates much in violence during the course of the disease. It is attended with a sensation of universal distress, which perhaps may arise from the circulation of un-oxygenated blood, or the accumulation of carbon in the system; for the countenance becomes livid, and the skin, especially that of the extremities, receives a permanent dark colour. This dyspnœa soon causes distress in lying in an horizontal posture. The patient raises his head in bed, gradually adding one pillow after another, till he can rarely, in some cases never, lie down without danger of suffocation; he inclines his head and breast forward, and supports himself upon an attendant, or a bench placed before him. A few hours before death the muscular power is no longer capable of maintaining him in that posture, and he sinks backward. The dyspnœa is attended with cough, sometimes through the whole of the disease, sometimes only at intervals. The cough varies in frequency. It is always strong, and commonly attended with copious expectoration of thick mucus, which, as the disease advances, becomes brown coloured, and often tinged with blood; a short time before death it frequently consists entirely of black blood.

“ The changes in the phenomena of the circulation are very remarkable. The sanguiferous system is increased in capacity; the veins, especially, are swelled with blood; the countenance is high coloured, except in fits of dyspnœa, when it becomes livid; and it is very frequently puffed, or turgid. The brightness of the eyes, dizziness, which is a common, and head-ache, which is a frequent symptom, and in some cases very distressing, are probably connected with these changes. The motions of the heart, as has already been stated, are inordinate, irregular and tumultuous. The pulse presents many peculiarities. In some cases, probably where there is no obstruction in the orifices of the heart, it remains tolerably regular, and is either hard, full, quick, vibrating and variable, or soft, slow, compressible and variable. Most commonly, perhaps always, when the orifices of

the heart are obstructed, it is vibrating, very irregular, very intermittent, sometimes contracted and almost imperceptible, very variable, often disagreeing with the pulsations of the heart, and sometimes differing in one of the wrists from the other.

“ The functions of the brain suffer much disturbance. Melancholy, and a disposition for reverie, attend the early stages of the complaint; and there is sometimes an uncommon irritability of mind. The dreams become frightful, and are interrupted by sudden starting up in terror. Strange illusions present themselves. The mental faculties are impaired. The termination of the disease is attended with slight delirium; sometimes with phrenzy, and with hemiplegia.

“ The abdominal viscera are locally, as well as generally, affected. Although the digestive functions are occasionally deranged, the appetite is at some periods remarkably keen. The action of the intestines is sometimes regular, but a state of costiveness is common. The liver is often enlarged, probably from accumulation of blood. This distention is attended with pain, varies much, and, in all the cases I have seen, has subsided before death, leaving the coats of the liver wrinkled, flaccid, and marked with appearances of inflammation, caused by the distention and pressure against the surrounding parts. An effect of the accumulation of blood in the liver, and consequently in the mesenteric veins, is the frequent discharge of blood from the hæmorrhoidal vessels. This occurs both in the early and late stages of the disease, and may become a formidable symptom. Evacuations of blood from the nose are not uncommon.

Dropsical swellings in various parts of the body succeed the symptoms already enumerated. They commence in the cellular membrane of the feet, and gradually extend up the legs and thighs; thence to the abdominal cavity, to the thorax, sometimes to the pericardium, to the face and superior extremities; and, lastly, to the ventricles and meninges of the brain. These collections of water may be reabsorbed by the aid of medicine; but they always return and attend, in some degree, the patient's death.

“ There is no circumstance more remarkable in the course of this complaint, than the alternations of ease and distress. At one time the patient suffers the severest agonies, assumes the most ghastly appearance, and is apparently on the verge of death; in a day or a week after, his pain

leaves him, his appetite and cheerfulness return, a degree of vigour is restored, and his friends forget that he has been ill. The paroxysms occasionally recur, and become more frequent, as the disease progresses. Afterwards the intermissions are shorter, and a close succession of paroxysms begins. If the progress of the complaint has been slow, and regular, the patient sinks into a state of torpor, and dies without suffering great distress. If, on the contrary, its progress has been rapid, the dyspnœa becomes excessive; the pain and stricture about the præcordia are insupportable; a furious delirium sometimes succeeds; and the patient expires in terrible agony.

“ Such are the symptoms, which a limited experience has enabled me to witness. Others, equally characteristic of the disease, may probably exist.

“ From this description of the symptoms it would appear, that there could be no great difficulty in distinguishing this from other diseases; yet probably it has sometimes been confounded with asthma, and very frequently with hydrothorax. Some may think, that there is no essential difference in the symptoms of these diseases. The resemblance between them, however, is merely nominal.

“ The cough in hydrothorax, unlike that which attends organic diseases of the heart, is short and dry; the dyspnœa constant, and not subject to violent aggravations. An uneasiness in a horizontal posture attends it, but no disposition to incurvate the body forward. These are some of the points, in which these two diseases slightly resemble each other. Those, in which they totally differ, are still more numerous; but as most of them have been already mentioned, it is unnecessary to indicate them here.

“ It is probable, that the two diseases commonly arise in patients of opposite physical constitutions; the hydrothorax in subjects of a weak relaxed fibre; the organic diseases of the heart in a rigid and robust habit. The subjects of the latter affection, in the cases which have fallen under my observation, were, with the exception of one or two instances, persons of ample frame, and vigorous muscularity, and who had previously enjoyed good health. In nearly all these cases the collection of water was principally on one side, yet the patients could lie as easily on the side where there was least fluid, as on the other; which, in the opinion of most authors, is not the case in primary hydrothorax. It should also be observed, that, in many of the cases, there was only

a small quantity of water in the chest, and that in neither of them was there probably sufficient to produce death. May not primary hydrothorax be much less frequent, than has commonly been imagined?

" Idiopathic dropsy of the pericardium may, perhaps, produce some symptoms similar to those of organic disease of the heart; but it appears to be an uncommon disorder, and I have had no opportunity of observing it. In the fourth case, a remarkable disposition to syncope, on movement, distinguished the latter periods of the disease, and might have arisen from the great collection of water in the pericardial sac.

" The causes of this disease may, probably, be whatever violently increases the actions of the heart. Such causes are very numerous; and it is therefore not surprising, that organic diseases of the heart should be quite frequent. Violent and long continued exercise, great anxiety and agitation of mind*, excessive debauch, and the habitual use of highly stimulating liquors, are among them.

" The treatment of this complaint is a proper object for investigation. Some of its species, it is to be feared, must forever remain beyond the reach of art; for it is difficult to conceive of any natural agent sufficiently powerful to produce absorption of the thickened parietes of the heart, and at the same time diminish its cavities; but we may indulge better hopes of the possibility of absorbing the osseous matter and fleshy substance deposited in the valves of the heart and coats of the aorta. A careful attention to the symptoms will enable us to distinguish the disease, in its early stages, in which we may undoubtedly combat it with frequent success.

" Although it may not admit of cure, the painful symptoms attending it may be very much palliated; and, as they are so severely distressing, we ought to resort to every probable means of alleviating them. Remedies, which lessen the action of the heart, seem to be most commonly indicated. Blood-letting affords more speedy and complete relief than any other remedy. Its effect is quite temporary, but there can be no objection to repeating it. The digitalis purpurea seems to be a medicine well adapted to the alleviation

" * It has been remarked by the French physicians, and particularly by M. Corvisart, physician to the emperor of France, that these organic diseases were very prevalent after the revolution, and that the origin of many cases was distinctly traced to the distressing events of that period."

of the symptoms, not only by diminishing the impetus of the heart, but by lessening the quantity of circulating fluids. Its use is important in removing the dropsical collections; and for this purpose it may often be conjoined with quick-silver. Expectoration is probably promoted by the scilla maritima, which, in a few cases, seemed also to alleviate the cough and dyspnœa. Blisters often diminish the severe pain in the region of the heart, and the uneasiness about the liver. It has been seen, that the excessive action of the heart sometimes produces inflammation of the pleura and pericardium, and that the distention of the coat of the liver has the same effect upon that membrane in a slighter degree. Vesication may probably lessen those inflammations. When the stomach and bowels are overloaded, a singular alleviation of the symptoms may be produced by cathartics, and even when that is not the case, the frequent use of moderate purgative medicines is advantageous. Full doses of opium are, at times, necessary through the course of the complaint. The antiphlogistic regimen should be carefully observed. The food should be simple, and taken in small quantities, stimulating liquors cautiously avoided, and the repose of body and mind preserved, as much as possible.

“The causes of some of the phænomena of this disease are easily discovered; those of the others are involved in obscurity, and form a very curious subject for investigation. I shall not at present trouble you with the ideas relating to them, which have occurred to me, but hope to be able to present some additional remarks on the subject, at a future period. In the mean time, I beg leave to invite the attention of the society to the observation of the symptoms of this interesting disorder, and of the morbid appearances in the dead bodies of those, who have become its victims.”

Two cases of hydrothorax conclude this very interesting publication. The display of anatomical, physiological and medical talents which it affords, not only demands our hearty acknowledgments, but encourages us to offer to the meritorious author another case, to be added to his stock of materials in the next edition, should he deem it worthy of a place: [See following page.]

This is the history of a disease and dissection, wherein an extraordinary organic lesion of the right auricle and left ventricle of the heart was found; and is contained in a letter from the late Dr. Hall Jackson to the honourable William Plumer, of Epping, (N. H.) dated February 20, 1786.

AUG. 22, 1809.

MY DEAR SIR,

I inclose to you a report of the remarkable case of general William Whipple, of Portsmouth, (N. H.) He was one of the members of Congress, from this state, who signed, in 1776, the memorable declaration of our independence; and at the time of his death, was one of the judges of the highest court of law. The account of his case was communicated to me, soon after his decease, by my late worthy friend Hall Jackson, a man eminent for his professional knowledge and skill, both as a physician and surgeon. If you think it worthy of being preserved, you are at liberty to publish it.

I am, with much respect and esteem,

Yours sincerely,

WILLIAM PLUMER.

To the hon. Samuel L. Mitchell.

William Whipple, Esq. having for several years laboured under a disorder, the symptoms of which were of a peculiar nature, and such as to lead the faculty in general to conclude that some material defection, in or near the heart, had taken place; they were much divided in their opinions; some concluded that a polypus had formed; others that there was an aneurism of the aorta, or pulmonary arteries. The general, or most prevailing symptoms that attended the disorder, were, that upon the least increased exercise of the body or mind, or whenever in the smallest degree the motion of the blood was accelerated, an uncommon palpitation of the heart took place.

The fatigues of the last Superior Court circuit so aggravated these alarming symptoms as to deprive him of every expectation or hope of surviving: he gave directions that after his death his body should be opened, that the nature of his disorder, if possible, might be ascertained. The melancholy event took place on the 28th instant; and the following day, agreeable to his request, the body was inspected, and the following appearances and observations occurred:

On raising the sternum, the pericardium first presented,

so much enlarged as to press up the lungs much higher than in a natural situation; there appeared to be a larger proportion of fat on the pericardium than on the other viscera; in the cavity of the thorax was about one half pound of water; on opening the pericardium, little or no water was found in it. The right auricle of the heart was enlarged to a surprising degree; so as closely to fill up, and greatly enlarge, the pericardium. On the superior and anterior part of the auricle, a little inclined to the right side, was an appendage nearly of the size of an hen's egg, irregular, of a livid colour, which appeared like a large glandular tubercle, approaching to a state of putrefaction, but on pressing it gently, it lessened by discharging part of its contents into the cavity of the auricle; on opening the auricle, which, by its distention, had become less than half its natural thickness, the cavity was found so much enlarged, as to be capable of containing three times the natural quantity, at the least computation. On examining the internal surface of the auricle, the beforementioned appeared to be the internal coat of the auricle, abraded through in a great number of holes, which gave it the appearance of net-work: the external coat of the auricle was pushed out, and formed this appendage, or rupture, which contained a considerable quantity of grumous matter, of a consistence rather firmer than coagulated blood, and not altogether unlike what by some might be termed a polypus. On endeavouring to pass the finger from the auricle to the ventricle, the entrance was found to be closed up with a firm ossification; the *valvulæ tricuspidæ* had become a solid bone, and wholly closed the passage from the auricle to the ventricle, excepting two small perforations that might admit a large-sized probe; not a single drop of blood could pass from the auricle to the ventricle, but what passed through these two apertures. Just above, or rather through the upper edge of the ossification, was an opening that passed downwards in an oblique direction from the right auricle to the left ventricle, immediately under the *valvulæ mitrales*: this opening would admit the little finger. The *foramen ovale* was not open: the valves of the left auricle, as well as those of the pulmonary arteries, were in a perfect, sound, and natural state; the heart, in every other respect, had a healthy appearance; not the least preternatural adhesion, or a single tubercle, was found in the whole viscera, but they exhibited a remarkable appearance of soundness.

When it is considered how irregularly and sparingly the lungs must have been supplied with blood, and consequently the left ventricle of the heart, by the pulmonary veins, it must be concluded, that unless the preternatural opening, from the right auricle to the left ventricle, had been formed, the ventricle could not have been supplied with a quantity of blood sufficient to have filled it immediately, and thereby excited a force necessary to propel the blood through all the remote ramifications of the arteries; even as it was, the circulation was so languid that no pulsation could be perceived in the radial artery, or any other equally large or remote from the heart, for a long time before his death.

When it is considered how small a proportion of blood could be circulated through the lungs to receive the benefit of air, and when also it is considered that so remarkable an obstruction should so long subsist in the very fountain and source of life, it must be a matter of wonder and astonishment that life could be so far prolonged, and with no more inconvenience. He appeared in a tolerable state of health, unless interrupted by increased exercise; and at his death, was far from being an emaciated subject.

Portsmouth, Nov. 30th, 1785.

P. S. On a subsequent examination of the ossification, (*ex situ*) it was found that a small fissure ran transversely from the sides of the ossification, about half an inch in length, and somewhat more than a line in breadth, terminating at each extremity in the two small perforations before mentioned. This fissure and opening appeared at the edges and points of the valves not fully ossified; the papillæ and upper extremities of the fleshy columns of the right ventricle, were formed into numberless bony concretions. On raising the ossified valves, the fleshy and tendinous columns could be drawn up, but in no situation could close the fissure or perforations, to prevent the reflux of blood into the auricle; a freer exit into the pulmonary arteries might prevent a return the other way.

It is conjectured the right auricle was always filled; that by this great distention it had lost its contractile power; that the blood flowed in a slow, but a continued stream into the left ventricle, through the preternatural opening, from the right auricle. What could prevent the reflux of blood from the ventricle to the auricle, through this opening, could not be ascertained; the finger could pass readily each way, without the least appearance of a valve.

On the least increased exercise, the muscular motions of the heart were increased, little or no blood being returned from the lungs, and the preternatural opening from the right auricle to the left ventricle, being insufficient to replace the blood thrown into the aorta, the heart, from being suddenly emptied, lost its action, an immediate syncope took place, which would deprive him of all motion and sensation; in less than a minute, the ventricle being opened excited the heart to renew its action, when he would recover from his faintness and state of insensibility.

He complained before his death of pain in his breast, immediately over the diseased part of the right auricle, and it is very probable, that had he survived a short time, the auricle would have been completely ruptured; instantaneous death would have been the consequence. The circulation of blood was so languid in the extremities, that he would complain of his hands and feet being cold, in the hottest day of summer.

The American Dispensatory, containing the operations of Pharmacy; together with the natural, chemical, pharmaceutical and medical history of the different substances employed in medicine; illustrated and explained, according to the principles of modern chemistry: comprehending the improvements in Dr. Duncan's second edition of the Edinburgh new Dispensatory. The arrangement simplified, and the whole adapted to the practice of medicine and pharmacy in the United States. With several copper-plates, exhibiting the new system of chemical characters, and representing the most useful apparatus. By John Redman Coxe, M. D. one of the physicians of the Pennsylvania Hospital, member of the American Philosophical Society, and of the Batavian Society of Sciences at Harlem. Philadelphia. Dobson. 1806. 8vo. pp. 800.

AN historical account of Dispensatories, as they have appeared in different ages and countries, might be so conducted as to throw much light on the progress and revolutions of medical opinions and practice. The publication of regular works of this kind cannot, however, be traced to a very early date. From the time of the Arabians to the present period, it has been always judged necessary to fur-

nish the public with a standard to regulate the art of preparing and compounding medicines. The imperfect notices of this subject found in the writings of Hippocrates and others among the ancient physicians, can scarcely be considered as of much importance, even by the fondest admirers of antiquity.

About the middle of the fifteenth century, the books of authority on pharmacy were a treatise of Avicenna, and another of Serapion on simples, which are still extant. Much respect was also entertained about that time for the *Antidotarium* of Mesue, and for a similar work by Nicholas of Salerno. The great mass of the contents of these books is founded upon fanciful conceits, confused, inconsistent and unintelligible. The ingredients of the compositions are numerous, sometimes incompatible, and often worthless. Of the greater number, it is impossible to ascertain the design. It was common at that period to introduce a remedy for every symptom, and it was supposed that the result of the whole combination could not fail to form an energetic and universal medicine.

The number of these works was much increased in the course of the sixteenth and seventeenth centuries. Without adding much to the substance or improvement of pharmacy, writers continued to copy from one another, and to bring forth the old materials in a new form. Almost all their compositions were overloaded, disguised and enfeebled by the number and the inertness of the ingredients.

But in the eighteenth century, the number of Dispensatories and Pharmacopœias swelled to an incredible amount. Almost every civilized country now has its own Pharmacopœia, and in Europe they are generally established by the authority of the government. Pharmacy must necessarily go hand in hand with Chemistry; which is one of the sources of the frequent revisals and reforms which are rendered indispensable by the progress of chemical science.

Dr. Lewis's Dispensatory, first published in 1753, forms the basis of the work now before us. The original had been improved in various editions before the author's death, and afterwards by the successive additions and corrections of Dr. Webster, Dr. Duncan, and Dr. Rotheram, of Edinburgh. The American public are much indebted to Dr. Coxe for his addition of materials from our own country in this edition. For an exact account of what he has done, we

present the reader with his Preface to this edition, as follows :

“ The present edition of an American Dispensatory is the first attempt which has been made towards the introduction of a Standard for the United States. That it is exempt from errors, is not supposed ; and the only merit the Editor claims, if any there be in it, arises from the totally different arrangement he has pursued, from that of any other work of the same kind, which has fallen within his observation.

“ The numerous subdivisions of the Dispensatory have always appeared to the Editor to be unnecessary, and certainly troublesome, as it requires so many distinct references to what may, with more propriety, be introduced in the consideration of the substance to which the preparation more immediately refers. By the alteration which is here attempted of giving after each simple substance its respective preparations ; the whole is condensed into one view, and greater simplicity is thereby attained.

“ Although the materials are chiefly the same, it is not improbable, that some of the articles might have been more judiciously placed under other heads than those chosen for them. Some additions have been made to the catalogue of our medicines, taken chiefly from the valuable “ Collections for a Materia Medica of the United States,” by Professor Barton. They form, it is true, but a small proportion, and are very imperfect, yet it is hoped they may prove a basis for a more complete attempt at a future period.

“ Many alterations undoubtedly might have been made in the medical uses of the articles introduced, especially as regards the practice of Physic in the United States ; but the short period allowed to prepare this Edition for the press, precluded the possibility of effecting it at present. It is therefore committed to the public, with little deviation from the Edinburgh copy, with the hope that every allowance will be made by the candid Practitioner, who can alone appreciate the difficulties of the undertaking.

“ In selecting the formulæ of the various preparations, the Editor has chiefly confined himself to those of the Edinburgh college, as he believes they have been most generally adopted in the United States. It has, however, certainly become necessary to establish a standard of composition for this country, as the late addition of the Dublin Pharmacopœia to the Edinburgh Dispensatory, has only added to the

difficulty of selection ; and as the choice is entirely optional with the apothecary, a great, and in some instances, an injurious variety is introduced into the shops. It is of little import which formula is employed, provided that is universal ; but as the colleges have themselves differed so greatly in the preparation of some very active medicines, (as in the antimonial wine) it is obvious that it should not be left discretionary, as many are totally incompetent to the task of selecting, and will, no doubt, be glad to have a standard established to their hands. Mistakes may likewise be prevented, which occasionally must result, from Physicians employing the same doses, of medicines so different in point of strength.

“ The preface to the Edinburgh Dispensatory, which is here given, explains so fully the reasons for adopting the new nomenclature, that it is considered unnecessary to repeat them. They have, however, determined the Editor to retain it generally ; at the same time the synonymes of the other colleges are given, by which the whole is exhibited in one concise view.

“ The enumeration of the articles employed in some foreign Pharmacopœias, and some tables, &c. occupying nearly forty pages of the Edinburgh copy, are here omitted as superfluous. The valuable posological table, exhibiting the respective doses of the medicines which may be given, is however retained, and must prove of considerable benefit to the young beginner.

“ The Editor conceives that many articles might have been judiciously omitted ; as this, however, depended solely on his own judgment, which might differ considerably from that of many learned friends, he considered it prudent, at least at present, to retain the whole ; hoping that the opinion of practitioners might enable him, at a subsequent period, to render the work more perfect and more worthy their acceptance.

“ Although the chemical part, is deemed in a great degree unnecessary in a work of this kind, yet for the reason above assigned, the Editor has incorporated from the Edinburgh Dispensatory as much as possible, in those parts to which it appeared more particularly to refer.”

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

DOMESTIC.

*One of Professor Linnæus's original letters to the late Lt.
Gov. Colden.*

THE correspondence between these two illustrious persons, from 1747 to 1751, is extant among the papers of the latter, in the possession of his grandson, counsellor Cadwallader D. Colden, of New-York. This gentleman has discovered many more tracts of his great ancestor, on literary, scientific, historical, and theological subjects. He has been for some time engaged in arranging them, and in making the proper selections for a publication. To his politeness and liberality we are indebted for one of the letters of the Swedish naturalist Linné, which we lay before our readers in the latin, which the writer chose as the vehicle of his sentiments. The botanical work of Dr. C. referred to by Professor L. is the "*Plantæ Coldenhamiæ in Provincia Noveboracensi, (paucis exceptis) spontaneæ crescentes; quas ad methodum Linnæi sexualem anno 1742 observavit Cadwallader Colden.*"

Ed.

*Viro Illustri CADVALLAD. COLDEN, s. pl. d. CAR. LIN-
NÆUS.*

" Literas tuas, vir illustris, 1748—9, Febr. 9 datas, accepi et summa animi voluptate perlegi, utpote datas a Fautore longe remoto et curiosissimo. Sententiam quam foves de generatione plantarum ad instructionem generum eadem est, quam proposuit D. Mitchell in Actis Naturæ Curiosorum. Statuis plantas ejusdem generis esse, quæ possunt genitura sese miscere; at ego has varietates dico, nec distincta genera. Sint, exempli gratia, Ranunculi species diversæ, quas nullus negabit genere convenire; attamen hæ nulla ratione possunt sese miscere aut una alteram, fœcundare; sed Tulipæ et Brassicæ, quæ tantum sunt varietates miscentur facillime.

Dubia et obscura in re herbaria circa terminos et leges varias systematis explicavi in philosophia Botanica, quæ etiamnum sudat ; quam, cum etiamnum e prelo non prodiit, doleo me hac vice ad te, vir illustris, mittere non posse. Habebis in eo libello omnia dubia enodata, quam primum prodeat.

Mitto Acta Upsaliensa pro anno 1743, ut videas primam partem descriptionum tuarum ; altera pars imprimetur in anno 1744 quia nondum a prelo exiit. Si habes plura, mittas quæso ; omnia candide Actis inserem ; utinam velles cum aliquot plantis siccis simul mittere et semina ; occasio quotannis datur per theologos nostrates ; si quidquam sit quod in nostris terris desideres parata tibi sunt omnia quæ a me expetas. Nonnullæ sunt inter tuas plantas rarissimæ antea non descriptæ, nobis nec vivæ, nec siccæ visæ ; utinam liceret has possidere in Herbario nostro.

Tu valeas et diu vivas ; has exarare debui ut testarem observationem meam in Floræ Mæoenatem. Dabam Upsaliæ 1750 d' 10 August.

MEDICAL LECTURES IN THE UNITED STATES.

I. *New-York.*

1. *New Institution in Magazine-street, city of New-York.*

The several courses of Lectures (in this College) will commence regularly on the first Monday in November, for the winter sessions ; and on the second Monday in April, for the summer sessions, in every year : the former will continue about four months, the latter about three.

The president of the Medical Society in every county of the State, is invited to designate a Student of medicine, of fair moral character, of promising talents, and diligent habits, who shall be admitted to attend the public lectures in the College, free of expence.

The professors are,

Nicholas Romayne, M. D. the Institutes of Medicine.

Samuel L. Mitchill, M. D. Natural History and Botany.

Edward Miller, M. D. Practice of Medicine, and Lecturer on Clinical Medicine.

Archibald Bruce, M. D. Materia Medica and Mineralogy.

Benjamin De Witt, M. D. Chemistry.

William J. McNeven, M. D. Obstetrics, and Lecturer on the Diseases of Women and Children.

J. Augustine Smith, Anatomy and Surgery.

2. *Faculty of Columbia College.*

The plan of medical instruction is continued as heretofore;

Anatomy, Physiology, and Surgery, are taught by Wright Post, Esq.

Chemistry and legal Medicine, by James S. Stringham, M. D.

Midwifery, by Walter W. Buchanan, M. D.

Institutes of Medicine, by John C. Osborn, M. D.

Materia Medica and Botany, by David Hosack, M. D.

Practice of Institutes of Medicine, with Clinical Lectures, by William Hamersly, M. D.

3. *Fairfield Academy, near West Canada Creek, North of the Mohawk River.*

Professor Noyes, gives a Course of Lectures on Chemistry, and Professor Jacobs, on Anatomy and Surgery, to those who attend this respectable Seminary, in Herkimer County.

II. *New-Hampshire.*

At the Theatre in Dartmouth College, the Medical Lectures commence the first Wednesday of October.

On Anatomy, Physiology and Surgery.

Chemistry and Materia Medica.

Theory and Practice of Physic.

By Nathan Smith, M. D.

III. *Massachusetts.*

The Lectures on the various branches of Medicine at the University in Cambridge, commence on the first Wednesday in October.

Anatomy, Surgery, and the Obstetric Art, by John Warren, M. D. and John C. Warren, M. D.

Theory and Practice of Physic, by Benjamin Waterhouse, M. D.

Chemistry, and Materia Medica, by Aaron Dexter, M. D. and John Gorham, M. B.

By the liberality and unwearied exertions of Ward Nicholas Boylston, Esq. this institution has been enriched

with a cabinet of delicate Anatomical preparations, and with an extensive and very valuable Library, founded on the Greek and Roman Medical Classics, and augmented by all the most celebrated modern publications. These works, together with those, which previously belonged to the College Library, constitute a complete collection of the most useful Books on all the different branches of Medical Science. During the Lectures, the Students will have free access to the Library, and receive the privilege of removing them to their rooms, or of consulting at their leisure, the more voluminous works in the Hall. In consequence of this arrangement and an accurate examination of the series of Anatomical Preparations, it is obvious, that the Student will be enabled to fix more permanently on the memory, the facts he has heard announced in the Lecture-Room, and acquire a more correct and intimate knowledge of the subject than can be obtained in a single public demonstration.

IV. *Pennsylvania.*

Benjamin Rush, M. D. Professor of the Practice and Institutes of Medicine ; and Clinical Lecturer.

Benjamin Smith Barton, M. D. Professor of Materia Medica and Botany.

Caspar Wistar, M. D. Professor of Anatomy and Midwifery.

John Redman Coxe, M. D. Professor of Chemistry.

Philip Syng Physick, M. D. Professor of Surgery.

V. *Maryland.*

Anatomy, Surgery and Physiology, by Professors John B. Davidge, M. D. and James Cocke, M. D.

Practice and Theory of Medicine, by George Brown, M. D.

Materia Medica, by Thomas E. Bond.

Institutes of Medicine, by William Donaldson, M. D.

Chemistry, by John Shaw, M. D.

Remarks on the Camel and Dromedary, as animals worthy of introduction into the Southern States and Territories. By William Eaton, Esq. dated Ashford, (Con.) June 17, 1809.

Accidentally, on my passage through this state, I met with an extract from a paper recommending the introduction

of the Camel to the southern section of the Union, as an animal of burden. Many years ago, I held a command on the southern frontiers of Georgia, and had occasion to reconnoitre a considerable part of that country. I remarked much inconvenience in transporting the productions of the interior plantations to navigable waters, by reason of the weakness of the working cattle and horses; obstruction of loose sands and slippery clay bottoms, and the want of forage to support teams; for these are impediments which can never be wholly removed. A remedy can be had by introducing the camel. I formed this opinion soon after becoming acquainted with the customs and habits of the Moors and Arabs on the coast of Africa; and it was my intention to have sent a number of that and other animals from the coast to some of my friends in the southern states, had not adversity defeated my designs. About five hundred camels bore our baggage, provisions and camp equipage from the borders of Egypt to the eastern provinces of Tripoli. They were driven by Arabs. The region through which we passed was extremely sterile. In a march of about six hundred miles in the desert we saw neither a cottage, a fruit tree, nor a natural stream of water. On the borders of mountains and in the ravines we found a miserable shrubbery; wild thyme, thistle, a kind of dwarf sweet briar, low and knotted thorn bushes, and here and there a little herbage.

No provisions were made for the subsistence of our camels; the proportionate burthen laid on each of them was about seven hundred weight. The vallies between the high grounds and mountains are plains of sand, in some places deep and quick. In many instances we were compelled to march two, three, or four days through these dreary plains, without affording any forage to those patient animals; and it was only when we fell in with such coarse vegetation as I have before described, that they were loosed from their hampers and permitted to roam under the vigilance and responsibility of their drivers; they seemed to prefer the roughest weeds and were peculiarly fond of the thistle and wild thyme. Though from the *scantiness* of this wretched kind of forage they became low in flesh, not one of them failed; and I am persuaded from my own observation, that they did not have water more than four or five times during a passage of fifty days. The scanty supplies which we took from accidental cisterns and rare reservoirs hardly kept alive our famishing host, and our cavalry horses, which can-

not subsist without drink. One Arab was allowed to the care of ten camels. How useful might this animal be rendered on the plains of our southern climates? cold weather, freezing, is destructive to them; and they make a laborious and weary progress among rocks.

In such parts of the southern states as where roads are imperfect, and where the mails and other communications are carried by horses, the Dromedary would also be a useful introduction. This animal seems to be a species of the camel, less in size, easy in motion, and speedy of travel. Its general daily march is about sixty miles—when pushed, one hundred. It feeds on the same plants as the camel, and is equally docile and obedient. It is remarkable that the camel always kneels to receive its burthen, and has the sagacity to know and complain when too much is imposed for his strength; he kneels also to be unladen.

Other kinds of useful animals might also be brought from Africa. They have the finest mules on the Barbary coast I have ever seen in any country; and the means of producing the same quality here may be easily obtained and transported. An excellent species of sheep are found there, upon which some beneficial experiments have been made upon the plantations of Judge Peters of Pennsylvania. Some valuable tropical fruit trees from that coast, unknown in our country, I think might be made to flourish in the vicinity of New-Orleans, on the banks of the Mississippi, and on our southern frontiers; particularly the palm tree. It produces a fruit extremely nutritious, which forms a chief article of subsistence to the sun-browned wanderers of the interior of Barbary and Egypt; is very delicious, and is a rare treat as a dessert upon the boards of gentlemen in Europe and America.

This sketch is imperfect, but not incorrect. A passenger and a late hour must apologize for imperfection. I shall be glad to correspond with any gentlemen who feel and will take an interest in this subject; and if circumstances allow, would willingly have a concern in an enterprize which I believe might, in process of time, be rendered very useful to our country.

Some of the Phenomena of Summer Hail Storms in America.

A letter from a gentleman at Woodstown, in Salem county, New-Jersey, informs us, that that part of the county has

recently experienced two of the severest hail storms that can be remembered by the oldest inhabitants. The first was on the 24th May, 1809, and extended in width not more than half a mile, in length its extent was not known. The hail stones were about the size of a robin's egg, and very transparent; and were driven with such force by the wind as to destroy entirely many fields of grain, and gardens. The second was on the 28th: its extent not known. The hail stones which fell in some places were as large as a common hen's egg, not transparent like the former, but having the appearance of snow balls. Though this storm was not accompanied by so high a wind as the former, it did great damage: horses, cows, sheep, hogs, &c. being killed by the stones, and one barn, that our informant had heard of, destroyed by the lightning.

From another quarter we have the following account, which we give in the words of our correspondent, whose veracity is unquestionable:

"On Sunday the 28th of May there fell, near Manna-hawkin, on the sea shore, in the county of Monmouth, the largest hail stones ever seen by the oldest persons there. The hail began to fall about seven o'clock, P. M. and continued about seven or eight minutes. After it had ceased falling, I gathered some of the largest, which measured seven inches in circumference; thirty minutes after, I measured several, which were from five to six inches. It was no doubt a favourable circumstance, that the wind abated just as the hail began to fall; if this had not been the case, I am of opinion the rye would have been destroyed. Considerable injury was done to the peach trees.

"Before the hail fell, there was a severe thunder storm with heavy rain, wind very high about west. The ground was nearly covered with hail, and some of the stones lay on the ground one hour and three quarters before they dissolved."

Authorities touching the roasting of mealy substances, for preparing a drink.

A mixture of rice, barley, almonds and sugar, roasted and intimately mixed, has been boastingly offered for sale in Paris, as a most excellent thing, under the specious name of *Caffè de Santé*, or Coffee of Health. Mr. St. Ur-

sin protests against this imposition, and denies it even the merit of novelty. The Greek and Roman physicians, he says, employed farinaceous seeds, after the manner practised by the contriver of the present preparation. The former called it *Alphiton*; and the latter, *Polenta*. Hippocrates notices it in his book on diet; and also in his treatise on affections. Paulus Ægineta recommends polenta, mingled with water, to quench thirst. Pliny writes that this remedy was much used in his time, against fluxes.

The Arabian physicians, who studied their profession, in the books of the Greeks and Romans, had, of course, as Le Clerc in his history of physic observes, an acquaintance with the polenta. Now the Arabians inhabited a dry and barren country, which produced but a small quantity of farinaceous grains. In lieu of these, however, there was plenty of coffee-berries, natives of the soil. Of these they probably first made their polenta, by a sort of necessity, having nothing else to prepare it from; and finding it to be infinitely preferable to the old composition, the new material was adopted in its stead. This discovery of its excellence and preferableness, by the Arabs, has been sanctioned by the four quarters of the globe; and the commerce and quarrels that have arisen since, among nations, have a strong provocative in coffee.

The insatiable appetite of mankind for this beverage, may be judged of by the fact, that they cheerfully pay a price for it, which authorises one class of voyages to Senegal, Guinea, Angola and Mozambique, to procure slaves to cultivate the article; another to Java, Mocha, Bourbon and Hayti, to bring it to neutral ports; and a third, to distribute it from these to such places as have no intercourse with the countries where it is raised. The contemplative philanthropist, as he calmly sips his coffee, may reflect how much of the cruel slavery, maritime exposure, and hostile destruction of the human species, arises from the attachment to this luxury.

Officers of the Georgia Medical Society, for 1809.

George Jones, President.
Lemuel Kollock, Vice-President.
Thomas Schley, Secretary.
William Parker, Treasurer, and
George V. Proctor, Orator.

*Officers of the New-Hampshire Medical Society,
for A. D. 1809.*

Ammi R. Cutter, M. D. President.
Nathan Smith, M. D. Vice-President.
Levi Bartlett,
Thomas S. Ranney, }
Ebenezer Larned, } Counsellors.
Joseph Tilton, and
William Cutter, }
Lyman Spalding, M. D. Secretary.
Thomas S. Ranney, Treasurer.
Nathan Smith, }
William Cutter, }
Lyman Spalding, } Censors.
Ebenezer Larned, }
John Fogg, and
Ezra Bartlett, }
Samuel Tenney, Librarian.
Ebenezer Larned, Deputy-Librarian.

*Another Species of atmospheric Stone, descending incrustated
with Ice.*

The following facts, relative to a fall of meteoric stones, mixed with hail, are translated from the Gazette de Santé, of Paris, for September 1st, 1808. They present a new case, and enlarge our views of this curious subject. The recital, from eye-witnesses, is as follows :

On Sunday, 31st July, 1808, a violent storm occurred over St. Germaine-en-Laye, about six o'clock in the evening. A squall from the west, accompanied with lightning and several loud claps of thunder, preceded a fall of rain, mixed with sleet, and followed by hail-stones, the mean size of which was larger than hens' eggs. Within seven minutes, seventy-five panes of glass in one house, fronting

that quarter, were broken, although a high row of trees sheltered the windows. The trees were bruised, fruit was beaten off, and legumes cut to pieces. Curiosity led some of our informants to collect a parcel of these hail-stones, and having observed that one was darker than the rest, their surprise was unequalled, on breaking it, to find a porous brownish stone, of an irregular shape, measuring ten lines in one dimension, by six in its greatest extent the other way. This is its actual bulk; for at the time it was found, it was a sixth bigger. The next day its colour was changed to a milky hue, which complexion it retains. It is of a very fine grain, and tender. Its surface is polished, but uneven. It is brittle, and its raspings effervesce with acids. Indeed it has considerable resemblance to a piece of chalk that has been rolled by the waters. Its particles seem very close, since the day it was found. It weighs eighty-nine grains. Its specific gravity is about a fourth more than a lump of gypsum of the same size. It is, within a few grains, of the same weight with a mass of flint of the like dimensions. This stone is not the only one that has been found within a hail-stone. The one now described may be seen at our office. But Mr. Aubé has gathered several others, which he immediately lodged, with their crusts of hail yet around them, with the magistrate of St. Germain. Our correspondence assures of a like occurrence at Rouen, the same day.

This fact calls loudly for the consideration of scientific observers. The stone has nothing in common with those collected at L'Aigle in 1803, at Benares in 1798, at Siena in 1794, at Juillac in 1790, at Aire in 1769, at Mort in 1750, at Ensisheim in 1492, &c. &c. Those stones were composed of flint, iron, nickel, sulphur, magnesia, and a little clay. They all had a blackish varnish, indicating an electrical or volcanic fusion. But in these latter productions, the stones appear to have been formed by deposition from the atmospheric water, on congelation, and to be entirely of aqueous origin. These facts afford a beautiful illustration of the elevation of calcareous earth into the high regions of air, with evaporated water, and a total subversion of the hypothesis that meteoric stones come from the moon.

Fulton's Lecture and demonstration of the practicability of sub-marine navigation, and of destroying Ships by his Artificial Torpedoes.

On the 12th of Feb. 1809, Mr. Fulton explained to a select audience at Kalorama, the seat of Joel Barlow, Esq. the principle of his machine and inventions to destroy ships of war, by blowing them to pieces and sinking them, when they enter our ports and harbours. Among the persons who attended on this occasion, were Mr. Jefferson, President U. S. Mr. Madison, President elect, Messrs. Mitchill, Leib, Bradley, and Sumter, of the Senate; and Messrs. Macon, Eppes, Jackson, Blount, and Cutts of the House of Representatives, with several other gentlemen, who were curious to gain information about this method of annoying our enemies.

In the display of mechanical and practical talent, which Mr. F. made on this occasion, he treated at large on the following subjects: I. his method of sub-marine navigation. II. his manner of shooting barbed harpoons into ships. III. his construction of the Artificial Torpedo, and the use of that destructive engine, to sink ships by exploding gun-powder under their bottoms.

The description of the boat for navigating under water, was aided by a model and drawings. Though the practicability of adjusting the specific gravity of the sub-marine boat and apparatus, to the fluid on which she moves, was sufficiently proved; and although a voyage actually made along the coast of France, had fully shewed that the chamber of the vessel could contain air enough to support the lives of three or four persons for several hours, the ingenious projector candidly owned that the difficulty and hazard of working these diving machines, added to the expence of their construction, seemed to him insuperable obstacles to their application to an extensive or practical purpose. In the course of his remarks he bestowed high encomium on the inventive genius and mechanical skill of Mr. Bushnell.

Mr. F. repeated the experiment which had been originally made by him and Capt. Whiley at New-York, of piercing a piece of timber, by a harpoon discharged by force of gun-powder from a blunderbuss. Such a gun, loaded with one of these instruments, about four feet in length, ragged at

the sharpened end, and attached to a strong cord, was discharged with force enough to penetrate through a thick plank, and to require cutting out in order to its removal. The possibility of shooting one of those barbed darts into the bows or sides of an enemy's ship, seems to be demonstrated. A rope may be carried along with it; and to the other end of that rope may be attached an artificial Torpedo, whose spring lock, if properly graduated, will strike fire after being drawn under the ship's bottom, and destroy her by an explosion there.

For a description of the Torpedo itself, and its destructive effects, we refer to our Vol. v. p. 74. Hex. II. In explaining this part of the subject, Mr. F. gave a beautiful sketch and delineation of the manner in which they might be anchored in the Narrows, at New-York, so as to endanger hostile ships that might sail through the channel in which they lie concealed. And he explained the three modes of applying them to vessels, 1. By harpooning a vessel under sail, whereby the Torpedo would be drawn under her bottom, by her motion through the water. 2. By sending them down the stream, to be carried under her bottom by the current, while she lays at anchor; and 3. By anchoring them here and there in the channels through which vessels must pass, and fitting to them a lock so connected with an external trigger or handle, that the collision between flint and steel shall take place on the slightest touch from a vessel's bottom striking against the trigger of the Torpedo, as it lies anchored about 12 or 14 feet below the surface.

The result which Mr. F. anticipates from the application of this invention, is far more extensive than the temporary defence of our harbours in the approaching war, should war really come on. He expects the system to be adopted as an infallible mode of defence by other nations—the minor maritime powers against the stronger, till it operates the total destruction of military navies. If so, the benefits will be great indeed; it will establish the freedom of the seas, discourage future wars, and save more than one half of the expences of government in all the present civilized nations of the world.

Translation of Tourtelle's Elements of Hygiene.

Dr. G. Williamson, of Baltimore is preparing for the press, a translation, in 3 volumes 8vo. of *Tourtelle's* (the Strasburgh professor's) *Elements of Hygiene*. In this, he

intends to increase the value of the original, by additions of new matter, for the benefit of the American reader. This work may be entitled a Treatise on the influence of physical and moral causes on Man, and on the means of preserving his health; and may be expected to attract a due share of private perusal and public patronage.

American Geography.

Mr. H. G. Spafford proposes to compile a "Gazetteer of the State of New-York." His proposals contain the following paragraph. "I have been long enough engaged in similar pursuits to know that, to describe with sufficient minuteness, every part and particular of this State, is no easy task; even in a Geographical Sketch, the object of which is to exhibit a *National View* of the whole. But, the task is much greater in the work now contemplated, where each County, Town, City, Village and municipal Corporation, forms a separate topic, and requires a separate description. Much of the information necessary in this work, must be collected by correspondence. I am therefore under the necessity of addressing men of information, and soliciting their assistance, residing in every of those subdivisions throughout the State."

Mr. Jonathan Ware, of Danville, Vermont, has undertaken to prepare a work, to be entitled the "Gazetteer of North America."

Native Opium of the United States.

Dr. Spalding has exhibited to the Eastern District of the New Hampshire Medical Society, specimens of Gum Opium and extract of Opium, manufactured by himself from the *Papaver Somniferum* Linnè, or the White Poppy. The seed was obtained from Professor Peck, and sown as early in April as the season would admit. The plants grew luxuriantly; soon after the flowers had fallen, and at the time when the capsule was fully formed (while the plant was yet in the most luxuriant vegetation) longitudinal incisions were made in the heads at evening and the milky juice collected the next

morning. This was evaporated to a pilular consistence in a tea-saucer, making the purest of Gum Opium, and was exhibited to the society.

This extract of Opium is much the same as that exhibited to the society last year, excepting that neither water nor spirit was made use of to obtain a greater quantity of extract; being satisfied that by washing you obtain little else than the coloring matter of the plant.

One specimen of the extract of opium was made from the heads of the poppy only; the relative strength of this and that made from the leaves, stalks and heads indiscriminately, has not been as yet ascertained.

This careful cultivator has presented to the society a quantity of the seed of the *Papaver Somniferum*, and will be happy to present it to any gentleman who will take the trouble to call or send for it.

Portsmouth, Sept. 6, 1809.

Treatise on Vaccine or Cow-Pock.

Speedily will be put to press, *A Practical Treatise on Vaccine or Cow-Pock*, by Samuel Scofield, M. D. one of the physicians of the New-York City Dispensary, and first resident surgeon of the New-York Institution for the Inoculation of the Cow Pock.

Mineralogical and Metallurgical Institution.

A Society is now forming in Boston for the purpose of cultivating and extending the knowledge of Mineralogy and Metallurgy in the United States. The plan of the Society embraces a collection of Minerals, and of the machines used in working of mines and smelting of ores; a Library and Laboratory, with a course of Lectures on Mineralogy and Docimacy. The well known liberality of the gentlemen of Boston has been extended to the support of this institution, so that it is expected that the society will be completely organized before January next; the first Course of Lectures will begin soon after. The society and the public will then have the advantage of Col. Gibbs' extensive collection of minerals, which will be opened in the apartments belonging to the society.

Lectures on Clinical Surgery in the New-York Hospital.

At the suggestion of the surgeons of the New-York Hospital, the Governors of that institution, conceiving that advantages might arise from making the patients in the surgical wards the subjects of clinical instruction, at their meeting on the 4th of July, 1809, appointed Dr. V. Seaman to that office, with privileges similar to those before granted to the clinical Lecturers in the medical wards.

We understand that Dr. S. intends to regulate those wards according to the most approved plan of the Hospitals in Europe; and that he will spare no pains in rendering the practice therein, both as respects the medical and operative part of Surgery, familiar and interesting to such students as may give their attention to that subject. The great number of surgical patients constantly admitted there, will open a large field for the exertion of the highly respectable talents and well known assiduity of Dr. Seaman, and will doubtless greatly extend the usefulness of that Charity.

Republication of a new Manual of Chemistry.

We are gratified in announcing that Mr. Griscom, Lecturer on Chemistry in this city, is engaged in correcting and preparing for the press, an edition of a popular and valuable little work, just published in London, by the Rev. D. Blair, entitled, "*A Grammar of Chemistry, in which the Principles are familiarized by easy and entertaining Experiments, illustrated by a number of engravings.*"

As the English edition of this work does not embrace all the important discoveries of Mr. Davy, and as it is in some other respects incomplete, it will be the object of the American editor to supply the deficiencies. The book will be a cheap little manual (perhaps at 50 or 62½ cents) and, from its having met the approbation of one so competent to judge of its merits as Mr. Griscom, we doubt not will be highly acceptable to the public, and especially to those teachers who have introduced the delightful study of chemistry into their seminaries. The work will be published by Messrs. Collins and Perkins.

State of Weather and Diseases in the Summer and Autumn of 1809.

The singular mildness of the late season will be long remembered. So moderate and cool a summer is not probably within the recollection of the oldest person in the community. After a backward and ungenial spring, the month of June continued remarkably cool till towards the latter part of it, when a few very warm days occurred, which were not exceeded by any in the subsequent stages of the summer. The heat of July was exceedingly moderate in general; and many days, particularly those which followed the deluging rains on the 17th, 18th, and 19th of that month, were unusually cool. August was likewise a month of very moderate temperature. Much uncomfortably cold weather was felt in the northern parts of the State. It is asserted, that on the 9th of August, snow was observed to fall for several minutes in the town of Warren, in the county of Herkimer. It is certain that frost was distinctly noticed, and the inhabitants of that part of the country were obliged to make fires in their sitting-rooms, as in winter. Frequent rains also took place in the course of this month. September continued to preserve the temperature of the preceding season, and was nearly throughout pleasant and mild. But in this month, the weather became extremely dry, and vegetation suffered much in consequence of it. In October, some unseasonably warm days were felt; but in the greater part of it, the weather was cool as usual.

As the prevailing character of the summer was cool and rainy, it will excite no surprise that the inflammatory diseases of the spring were protracted to a much later period than common, and that scarcely any part of the season was entirely exempt from the marks and tendencies of that diathesis.

The city of New-York, as might naturally be expected from the moderateness of the season, remained singularly free from Malignant Fever. In the neighbouring village of Brooklyn, this disease appeared early in July, and continued in a greater or less degree till late in September. Between thirty and forty persons are stated to have died of it, within the above-mentioned period. Nearly twenty persons, who had been exposed to the noxious air of Brooklyn, were attacked with the disease in this city, to a large proportion of whom the disease proved fatal.

Nothing but an extraordinary assemblage and concentration of nuisances in Brooklyn, can account for the prevalence of this disease in a season of such unprecedented mildness. The fact of these nuisances is established beyond the reach of doubt. All that portion of the village on and near the water, between the new and old ferries, is remarkably filthy. Water had been suffered to collect in many low and sunken places in that neighbourhood; great quantities of decaying animal and vegetable substances had been thrown or washed into them; and these pools of stagnant and putrid water, filled with this mass of corrupting materials, became so fetid as to render all the adjoining situations very uncomfortable. The most satisfactory proof of these facts is furnished by a report of the Brooklyn Committee of Health, in the following words:

“The late calamitous situation of this village points out the absolute necessity of removing nuisances of every description, until proper authority be appointed for that purpose. With respect to the nature or origin of this disease, your Committee do not conceive themselves qualified to determine. It may not however be improper to observe, that the machine for cleansing slips, &c. belonging to the Corporation of New-York, was, about the beginning of July, employed in cleansing the New Ferry Slip, and the contents thereof exposed to the direct rays of the sun, which, for some days, emitted so great a stench as to become extremely offensive to the neighbouring inhabitants, and compelled them to apply to the Corporation of New-York for its immediate removal; and also, that several lots and cellars, situated in low places near the New Ferry, were filled with stagnant water, which, from its stench and appearance, must have been collecting for months. It may not be improper to add, that, with one or two exceptions, those persons who were the first victims to the disease, were such as lived or worked in the vicinity of the above-mentioned nuisances, and who were generally exposed to the heavy rains which fell at that period.”

Although the nuisances, which have been described, fully explain the origin and propagation of this disease, it was attempted, as in former instances, to draw the public attention from the real source, and to fix it on foreign contagion. The vessels selected for this purpose were the ships *Brutus*, *Pizarro* and *Concordia*. But, as it appeared on further in-

quiry, that the two former were from ports of the United States, where no malignant disease existed at the time of their departure, it became necessary either to give up the pretension, as it respected them, or to admit that the noxious principle was bred on board of the ships in question.

As the Concordia was from the Havanna, it was considered more plausible to make her the vehicle of the alleged importation. How little foundation there was for this, may be seen from the following statement of facts. The Concordia sailed from Havanna in the latter part of May, and arrived at this port on the 17th of June, with the usual crew and twelve passengers. During the whole voyage, and after her arrival here, no sickness took place on board. Towards the end of June, one of her seamen, who had been discharged soon after her arrival, and who had passed several days in this city in a state of intoxication, went over to Brooklyn immediately after his frolic, and was there quickly seized with malignant fever, of which he died. At the house of a Mrs. Smith, where he was sick and died, many persons must have been exposed to the contagion, if his disease had been of a contagious nature; yet nothing of that kind occurred. Besides the crew and twelve passengers in the Concordia, a considerable number of workmen were employed on board soon after her arrival, none of whom were infected there. There is therefore every reason to conclude that no infection was communicated from any person or thing on board of that ship.

But the fact of the non-contagiousness of this disease, and consequently of its non-importation, is proved by the number of sick persons, amounting, as was before observed, nearly to twenty, who underwent the disease in this city, and mostly died of it, without communicating it to others in a single instance. In every case, a great number of persons, in quality of relatives, friends, physicians, nurses, intrusive acquaintances, washer-women, &c. must have been exposed to all the danger (if danger had existed) arising from the breath and contact of the sick, from their foul clothes and crowded apartments. Many of these sick persons lay ill and died in some of the lowest, filthiest, and least ventilated houses in town; where several families were crowded into one small house, and where cleanliness, accommodation and fresh air, were unknown. It would be a moderate estimate to suppose that from twenty-five to thirty persons must have been exposed, in each case, to the utmost force

of contagion, if contagion had really existed; and that the number of from 400 to 500 persons in the whole, must have received the noxious influence from the sick, if it had been any thing more than a creature of the imagination. Yet not a single instance of extension of the disease by contagion was heard of.

Thus we find, while the disease was spreading at Brooklyn among those who frequented the noxious ground, and other nuisances above described, and, in most instances, without going near the sick, that the utmost exposure to the alleged contagion in this city, in numerous cases, was followed by no injury. It cannot be contended, that the more heated air of Brooklyn rendered contagion operative there, and inoperative in New-York; for the heat of the city, from palpable causes, is always higher than that of the neighbouring villages or country. It cannot be contended, that cleanliness and ventilation prevented the spreading of the disease in New-York, while the neglect of such precautions at Brooklyn allowed the fever to be communicated; because, in several instances of its occurrence in this city, the patients, from unavoidable circumstances, were lodged in houses excessively crowded, and where filth was deplorably accumulated. Whatever difference took place on these points, was favourable to Brooklyn, and adverse to New-York.

The conclusion, therefore, irresistibly follows, that the putrid grounds, and other nuisances at Brooklyn, must have caused the disease, and not imported contagion. For if the latter had crossed the ocean to Brooklyn, it is truly wonderful that it could not cross the East river to New-York; and it would be still more wonderful, if one man from the ship *Concordia* infected Brooklyn, that nearly 20 persons ill of the same disease, coming into New-York, and mostly dying there, and several of them in the hottest and foulest situations of the whole city, should be totally insufficient to communicate the disease even in one single instance.

A solitary case occurred at Huntington, (L. I.) of which the following account was transmitted to Dr. Mitchill, by Dr. D. W. Kissam, of that place, dated 5th July, 1809:

“ I have had a fatal case of yellow fever; the particulars of which I wish to communicate to you as soon as possible. The following is an account of the manner of life and places of abode of Mr. David Jones, jun. about 4 weeks previous to his illness. He was part owner of the sloop *Fanny*, of

Cold Spring, Huntington, and sailed with Captain Lewis Buffet, from Edenton, N. C. 5th of June, for New-York : arrived 14th same month: discharged lading partly at Brooklyn and partly at George's slip, which consisted of turpentine, tar, and staves: afterwards returned home, remained there about 10 days; from thence went to New-York, lay in Rutger's slip about a week, then went up the North river, a little above Tappan. Saturday, July 8th, about noon, was taken ill while lading with dock stone, had no medical aid till Thursday 13th, when I was called to visit him.

" He complained of tightness about the region of his stomach: his countenance was very yellow, pulse slow, extremities preternaturally cold, tongue covered with white scurf, but not very thick.

" 14th, very early in the morning, had hiccups, followed by the coffee-ground vomit, and frequent discharges of black stools of a tar-like appearance; about noon his tongue became more dusky, slight delirium supervened, pulse more frequent, extremities warmer, and tremors came on, with a swollen countenance, loss of speech; he died about 2 o'clock at night. This narrative may tend in some degree to illustrate the origin of this most insidious complaint."

The extent of yellow fever in Charleston, S. C. may be understood from the following extract of a letter, written by Samuel Wilson, M. D. to Dr. Mitchill, dated August 31, 1809:

" Our city has been unusually healthy till lately, owing to the late uncommon fall of rain; for since the first of the last month, 22 inches have fallen, which is almost half as much as falls in a year, taking the average of 15 years past. This I can assure you is a fact, as my father keeps an accurate account of the weather, and has done so ever since the institution of the medical society in this place; and as the vessel he employs for the purpose of receiving the rain, was imported from England, the quantity has been regularly ascertained. From the great fall of rain, we have had a remarkably temperate summer as yet, and we were flattering ourselves with the hopes of an exemption from the yellow fever, but this has unfortunately not been the case, for about eight cases have occurred among strangers, and as is usually the case, the whole have terminated fatally, for I do assure you that very few recover, generally; especially such as are sea-fa-

ring people, who are seldom taken to the Marine Hospital till the third day from the attack; at least this has been the case this season; and I believe, with one or two exceptions, the disease has been confined to this class of people. As to the origin of the disease, there prevails but one sentiment, and that is of its being engendered here; no better proofs of which can be given than the circumstance of its being confined exclusively to strangers, and the sudden disappearance of it when the cold weather sets in."

On the 6th of October the Governor of New-York, by proclamation, directed the quarantine laws to be enforced against vessels and persons arriving from Charleston.

Dr. Rush's letter to Dr. Pascalis, of the 14th Sept. 1809, relates the appearances of epidemic fevers, &c. in Philadelphia, thus:

"An epidemic chronic fever took possession of our city in June, and happily, refused to yield to the yellow fever, which appeared in a few sporadic cases in July. It is now a time of uncommon health among all classes of our citizens.

Improvement in Veterinary Practice in New-York.

The first instance of a Veterinary practitioner, regularly educated, settling in this city, so far as we know, is that of Mr. CLEMENTS. He received a course of Instruction in the *Veterinary College of London*, established in 1791, for the reformation and improvement of Farriery, and the treatment of Cattle in general. He possesses testimonials of having attended this course, authenticated by the signature of those eminent surgeons in London, Mr. Astley Cooper and Mr. John Abernethy.

Besides these advantages in the acquirement of correct principles of Farriery, Mr. Clements has pursued the investigation of the subject with much diligence since he left the Veterinary College. He has made and collected a large number of anatomical preparations of the horse, exhibiting the parts of that animal both in the sound and morbid states, particularly the structure of the foot, which is extremely complicated and curious. Preparations of other animals likewise, especially such as are valuable, and whose diseases become interesting to the community, are also found in his collection. In short, the scientific manner in which this re-

spectable Veterinary practitioner has qualified himself for usefulness in his business, hitherto, we believe, unknown in America, entitles him to a large share of the public patronage and confidence.

Voyage of Observation around Long-Island.

On the 14th day of September 1809, the revenue cutter *Active*, Capt. Brewster, sailed on a trip of observation, to circumnavigate Long-Island. She proceeded through the Bay of New-York and the Narrows, to Sandy-Hook, having on board Daniel D. Tompkins, Governor of New-York, John Broome, Lt. Governor, and Messrs. Mitchill, Fairlie, Bullus, Williams, Morton, and Curtenius. Having coasted Long-Island, on the Atlantic side, at the distance of from 3 to 4 leagues, she returned by the way of the Sound, having touched at Sag-Harbour, Gardiner's Island, and New-London, on her route. During this voyage, repeated experiments were made on Thermometrical Navigation, (see M. R. Hex. II. Vol. v. p. 408.) Fine opportunity was given to make geological remarks, on the changes which have apparently taken place between Long-Island and the Continent; for Plumb island, the Great Gull island, the Little Gull island, the Race rock, and Fisher's island, are manifestly but remnants of that land which formerly extended from Oysterpond-point, in Southold, to Stonington, or Westerly, on the Main. The Channels of the Horse-race, Plum-gut, &c. have every appearance of having been formed in the course of ages. Attention was paid to the provision of an arsenal at Sag-Harbour, and to the completion of the fort at New-London. But above all, the Chart of Long-Island Sound, made by Capts. Fosdick and Calhoun, was tested as to its accuracy, and proved to be a most valuable document; highly worthy to be in the hands of every navigator, and creditable to the government, by whose order it was executed. The *Active* on the 21st, after spending a week in this service, resumed her station at the port of New-York.

Mineralogical Journal.

We feel great pleasure in laying before our readers the following Prospectus of a periodical work, to be entitled,

“ THE AMERICAN MINERALOGICAL JOURNAL, conducted by ARCHIBALD BRUCE, M. D. *Professor of Mineralogy in the University of the State of New-York.*

“ The object of this work is to collect and record such information as may serve to elucidate the Mineralogy of the United States, than which there is no part of the habitable globe which presents to the mineralogist a richer or more extensive field for investigation.

“ Of the utility of a publication of this kind, much might be said: it may however be sufficient to observe, that nothing has contributed more to increase and diffuse mineralogical information than the periodical works on the Continent of Europe, particularly those in Germany and France. At the present period, when such laudable exertions are making to improve and extend the manufactures of our own country, a knowledge of the mineral productions, on which so many of the useful arts depend, and with which nature has so liberally supplied us, becomes particularly desirable.

“ The mineral combinations which exist here, under forms unknown in Europe, will, we trust, procure for this Journal some attention abroad.

“ In order therefore that this design may be carried into effect, communications from those gentlemen who may have directed their attention to this interesting branch of science, are respectfully solicited, particularly such as may relate to the Geology and Mineralogy of particular districts; the history of Mines, their products, methods of reduction, and improvements in Metallurgy generally; descriptions of individual specimens, their constituent principles, localities and uses to which they may be applied in the arts; mineral waters, their situation, analysis and use in the arts, and in the cure of diseases, &c. A part of the work will be appropriated to such useful information as may be derived from foreign and domestic journals.

“ The first number will be published in the beginning of January next.

“ Communications, post paid, to be directed to Dr. A. Bruce, New-York, or to Messrs. Collins and Perkins, the publishers.”

FOREIGN.

Morrison's Treatment of Tinea Capitis.

THE friends of B. D. aged about 16, made application to me concerning his disease, which was a case of inveterate Tinea Capitis, attended with those troublesome symptoms observable on such occasions; such as extreme itching, heat, &c. On a minute inquiry into the progress of this formidable complaint, I was told, that he had applied for every medical and surgical advice that this great metropolis could afford, without the necessary relief; and that it had continued uninterruptedly for about four years.

When I carefully examined the parts affected, I perceived the entire scalp to be overspread with a loathsome incrustated appearance, and that it emitted at the same time a singularly offensive fœtor; there was, moreover, a disposition to debility in his habit of body; the digestive powers were much impaired, and many predisposing marks of a scrofulous constitution were apparent.

Though an intimate acquaintance with the structure of the human body is indispensably necessary to qualify a man for becoming a good surgeon; yet many who are not adepts in anatomy, may be instructed so as to assist their fellow-creatures in cases of emergency. The operation for perfecting a radical cure in cases of tinea capitis, I have seen performed by persons unacquainted with the profession, and with amazing facility.

I gave directions to the subject of this case, to have his head as closely shaved as was possible, and in such parts thereof as the razor could not touch, the scissars were necessarily substituted; a common poultice was then applied over the parts affected, at the same time my patient was advised to call upon me in the course of a few days.

When he came, as instructed, I observed that the poultice had effected its purpose, so far to render soft the incrustation, yet it exhibited a very foul appearance, and with

little or no diminution of fætor; also, the scabs continued to rise higher and thicker above the surface.

After another careful removal of the hair, and the head being well washed with warm soap and water, I applied the paste compounded as below, and spread on strips of strong linen. Of yellow resin, two ounces; of best ale, one pound; of the finest flour, three ounces. To the melted resin, add the ale and flour gradually, the two latter ingredients having been previously intermingled in a bason together.

Each morning I removed the paste, strip after strip, which gave, on the first applications, some degree of pain and uneasiness. It was also attended with a slight effusion of blood; yet he told me with much satisfaction after its removal, that his head was much easier than he had remembered it since the commencement of the disease.

I cautiously and attentively, for three weeks, removed and re-applied this adhesive paste, observing that my patient was less affected with pain after each succeeding application; I also, with a pair of scissars, clipped off the hair which began to grow, and gently separated such rising parts as might prevent the adhesion of the paste. From the first application to that period, wherein I could pronounce a perfect cure, the effusion of blood was observed to diminish gradually, that had issued on the first dressings, and all other appearances proceeded favourably.

Some years ago, I inserted a paper in the *Annals of Medicine of Edinburgh*, on the foregoing disease, which has since been transcribed into the fourth edition of Doctor Underwood's *Treatise on the Diseases of Children*. In that case, with the account therein given of its radical cure by the above paste, I perceive, what must have been *an error of the press*, the yellow resin is directed to be added to the other ingredients: the intention (according to the rules of pharmacy) was to have the *resin* first dissolved, and to add the thinnest part of the ale and flour gradually; continually stirring it in a brass skillet, on a brisk fire, until the whole be perfectly incorporated, and assume a thick gelatinous appearance. The paste was directed to be spread as above, and renewed each day, whilst, at the same time, the head was to be rubbed well with a coarse cloth, towards the termination of the disease. By this mode of procedure, I have radically cured, in about eleven years, forty-eight patients; and, as far as I can understand, not one of them

has had the least return of the complaint: they most generally enjoy good health, and have remarkably fine hair.

Dublin, January 3, 1809.

[*Med. & Phys. Journal, for* }
March. 1809.] }

Phenomena and Causes of Cretinism.

Dr. Reeve, of Norwich, having, some few years since, in a visit to Switzerland, and the neighbouring countries, embraced the opportunity of examining very minutely into the causes of Cretinism, has lately presented the result of his enquiries to the Royal Society. He was led to the investigation, because cretinism is usually connected with goitre or bronchocele; but, upon attending to the facts, he found that the goitre is not a constant attendant upon cretinism. The Cretin has frequently this disfigurement; his head is also deformed, his stature diminutive, his complexion sickly, his countenance vacant and destitute of meaning, his lips and eye-lids coarse and prominent, his skin wrinkled and pendulous, his muscles loose and flabby. The qualities of his mind correspond with the deranged state of the body which it inhabits, and cretinism prevails.

Upon a minute examination of many Cretins, Dr. Reeve found that there was no necessary connection between goitre and cretinism; the latter often exists where there is no appearance of goitre; but, according to this gentleman, there is a considerable similarity between cretinism and the malady called rickets. They both take place in infancy; are both characterized by feebleness of body, and, sooner or later, feebleness of mind; and they both affect males and females equally: but there is no connection between persons afflicted with bronchocele in England, and with rickets. To account for cretinism, we are told that the vallies, where it is most frequent, are surrounded by very high mountains: they are sheltered from currents of air, and exposed to the direct and reflected rays of the sun. The effluvia from the marshes are very strong, and the atmosphere humid, close, and oppressive. "All the Cretins," says Dr. R. "which I saw, were in adjoining houses, situated in a narrow corner of the valley, the houses being built up under ledges of the rocks, and all of them very filthy, very close, very hot,

and miserable habitations." In villages situated higher up the mountains, there are no Cretins to be seen; and even children, having a tendency to this dreadful affliction, may often be cured by being removed from the valley to the mountain. Dr. R. contradicts the notion that has long prevailed, that the goitre and cretinism depend on the drinking snow-water. The production of cretinism may, he thinks, be safely and fairly attributed to the bad quality of the air and the food, the neglect of moral education, and other evils attendant on poverty. The causes of this cruel disorder begin to operate upon the system soon after, perhaps even before, birth; the want of energy in the parent is communicated to the offspring; the children become deformed, the growth and developement of the body are impeded, the abdomen becomes enlarged, and the glands swelled in various degrees; and the powers of the mind remain dormant, or become entirely obliterated, partly from want of proper organization, and partly from the total neglect of every thing like education. Dr. Reeve gives some drawings of the heads of Cretins, to shew that they differ from the natural structure; hence, he adds, that there is no fact in the natural history of man, that affords an argument so direct and impressive in proof of the influence of physical causes on the mind, as cretinism. It shows, moreover, that the growth of every part is essentially connected with the conditions in which it is fit to exercise its peculiar functions; and, in this respect, it fares with the intellectual, as with the bodily, powers.

[*Lon. Mon. Mag.*]

New Test of Vaccination.

We have great pleasure in presenting our readers with a test of security, in regard to persons who have undergone the vaccination, and who may be made uneasy by the false and interested alarms of malignant persons. Let a patient be selected on whose arms the vaccine pustules have *regularly* advanced to the 7th, 8th or 9th day. From one of these pustules, let the subject intended to be put to the test of security, be re-vaccinated, and at the same time, and with a portion of the same vaccine fluid, let another child, who never has had either the cow-pox or the small-pox, be also vaccinated. On the arms of the child put to

this test, if it was previously secure, the virus will produce in short space of time, (two or three days perhaps) an inflammation around the parts punctured, and sometimes small irregular vesicles, accompanied with itching, which commonly dies away, long before the regular pocks on the arms of the child that had not been before secured, arrive at maturity. The reason why Dr. Jenner recommends the vaccination of a child not in a doubtful state, with the one whose situation may be supposed doubtful, is to prove to a certainty, that the vaccine fluid employed, is in a state of perfection. The insertion of variolous matter by way of test, in the early periods of the vaccine practice, was adopted and recommended by Dr. Jenner; but although it did not produce the small-pox on those previously vaccinated, it sometimes occasioned very extensive and troublesome inflammation on the arms.

[*Lon. Mon. Mag. for July.*]

Improved method of detecting Arsenic.

Mr. JOSEPH HUME has discovered a new method of detecting arsenic. The test which he proposes as a substitute for those hitherto used, appears to be more efficacious, inasmuch as it produces a more copious precipitate from a given quantity of that substance. It is composed in the following manner—Let one grain of white oxide of arsenic, and the same quantity of carbonate of soda, be dissolved by boiling in ten or twelve ounces of distilled water, which ought to be done in a glass vessel; to this, let a small quantity of the nitrate of silver be added, and a bright yellow precipitate will instantly appear. This is a more decisive test than sulphate of copper, which forms Scheele's-green, (arseniate of copper) and though the process answers very well with potash or lime-water, yet Mr. Hume is inclined to prefer the common sub-carbonate of soda.

[*Ibid.*]

Attempt to explain Animal Secretion.

Dr. WOLLASTON has been led, by Mr. Davy's experiments on the separation and transfer of chemical agents by means of the Voltaic apparatus, to imagine it probable, that animal secretions are selected by the agency of a similar electric power. In this opinion he is supported by the follow-

ing experiment:—He took a piece of glass tube about three quarters of an inch in diameter, and nearly two inches long, open at both ends; and covered one of them with a piece of clean bladder. Into this little vessel he poured some water, in which had been dissolved 1-240th of its weight of salt; and after placing it upon a shilling, with the bladder slightly moistened externally, he bent a wire of zinc, so that while one extremity rested on the shilling, the other might be immersed about an inch in the water. By successive examination of the external surface of the bladder, he found that even this feeble power occasioned soda to be separated from the water, and to transude through the substance of the bladder. The presence of alkali was discernible by the application of reddened litmus paper; after two or three minutes, and was generally manifest even by the test of turmeric before five minutes had expired. This experiment tends to confirm the conjecture, that similar agents may be instrumental in effecting the various animal secretions which have not yet been otherwise explained. The qualities of each secreted fluid may hereafter instruct us in the species of electricity that prevails in each organ of the body.

[*Lon. Mon. Mag. for Aug.*]

APPENDIX.

An Examination of "*A Review of a Dissertation on the Mineral Waters of Saratoga, &c. by Valentine Seaman, M. D. &c. as published in the second number of the New-York Medical and Philosophical Journal and Review. T. and J. Swords. 1809.*"

BY THE AUTHOR OF SAID DISSERTATION.

AFTER some preliminary remarks, the Reviewers assert that "*Dr. S. had drawn from memory, on his map, the shape of the conical covering of the Spring of Saratoga, which as there delineated is materially incorrect, and conveys an erroneous idea of the object, for if we mistake not,*" continue they, "*the real covering of the Spring is so flattened, and the declivity of the cone so gentle, that persons easily walk on its sides, and stand around the opening.*"

On this subject, the author of the Dissertation has nothing to remark, but that, (so far from *drawing from memory*) the shape of the rock, both as respects the size at its base and its elevation, was taken from observation made upon the spot. In regard to its general appearance, as represented upon the map, those who have seen the rock, before it became hidden by the floor of the building, which is now erected over it, all agree as to its accuracy.

The reviewers observe, that "*Dr. S. is inclined to believe Dr. Vandervoort correct, in the opinion that the waters of Ballston contain no more than equal their bulk of carbonic acid gas, because neither Bergman nor Henry could cause water (at their temperature) to absorb more than that proportion. But it may be urged on the other side of the question, that perhaps the pressure to which the waters of these Springs are exposed in their confinement under the earth, may be ten or a hundred times greater than either Bergman or Henry could give them. Thomson expressly says, 'that some of the aerated alkaline water prepared in Britain as a medicine, is said to contain about thrice its volume of carbonic acid gas.'* And we have reason to believe the Ballston Springs more highly impregnated with this air than any artificial water can well be. We wish Dr. S. had endeavoured to settle it by actual experiment; for it ought to be remembered that mere reasoning can never decide a matter of fact." To

this it may be rejoined, that unless we do put *reasoning* out of the question, it is really difficult to conceive how the waters of these Springs, which have a free outlet, could be exposed to such immense pressure as is here suggested; or that the water in the open Springs is more highly impregnated with the carbonic acid, than any artificial water can well be. In Saunders' account of the mineral waters of Europe, there is not a single one stated to contain as much as equal its bulk of carbonic acid gas, in its composition: that of the Pymont Spring, which appears to be the most highly impregnated, contains only 26. cubic inches of the gas to 28. 875 of the water.

"He (Dr. S.) tries his own skill at analysis. But here too he appears to have failed. He dropped into the water, previously evaporated to one fourth of its quantity, and filtered, some oxalic acid, which produced no CLOUDINESS or PRECIPITATION; whence he concludes no MURIATE of LIME exists in it. But this experiment, supposing no error in it, proves too much; for it also proves that there was no lime in the water in any shape, which both Dr. S. and Dr. Vandervoort enumerate among its ingredients; and BOILING ALONE COULD NOT HAVE EXTRICATED IT." "It seems therefore, that our author's experiment is no better than his reasoning, there being an evident fallacy in both." Dr. S. in turn will feel himself well satisfied if the correctness of his reasoning shall equal that of his experiment. Whether his deductions from it are fallacious or not, the experiment stands true. It was made (as were the other experiments on the water of Ballston) in the presence of Dr. Walters and Dr. Cock, and before three of his pupils, viz. John Fitz Randolph, Wm. Golden, and John L. Fitz Randolph, all of whom could testify to its accuracy if required. This however, is unnecessary, since the result of it was nothing more than what every *Chemist* would reasonably expect. For Kirwan, in his Treatise on Mineral Waters, observes that "Aerated lime, argil and aerated iron are *entirely* precipitated by boiling a quarter of an hour:" and again "If the lime were held in solution by fixed air only, it would be precipitated by continued ebullition or partial evaporation, and consequently this test (oxalic acid) could precipitate none; but if it were dissolved by a mineral (fixed) acid, this test would cause a precipitate both before and after partial evaporation or boiling."

Thomson says, "Earthy and metallic carbonates are pre-

cipitated by boiling the water containing them; except carbonate of magnesia, which is only precipitated imperfectly."

Henry, when speaking of the different states in which lime is held in solution in mineral waters, says, "If the oxalic acid occasions a precipitate before, but not after, boiling, the lime is dissolved by an excess of carbonic acid: if after boiling, by a fixed acid."

The reviewers again remark, "*Dr. S. from the effects of re-agents on the waters, concludes they contain CARBONATE OF SODA; and if so, he says it is impossible that the muriate of magnesia should exist in them, for the superior attraction of the alkali for the muriatic acid would utterly prevent the formation of a magnesian muriate. This argument, however, is not so conclusive as he seems to think. Although the soda may not be neutralized by the muriatic acid, yet small portions of that acid may at the same time be combined with the lime and magnesia.*" Thus much for the reviewers' opinion of the argument. The author will not contend for the dust of the balance; he cannot, however, but observe that Henry, whose work is pronounced by Professor De Witt to be correct, seems to think a little differently from them: he says that "Muriate of magnesia and alkaline carbonates cannot exist together in solution."

After several other minor observations, the reviewers thus finally conclude. "*Notwithstanding the critical remarks we have been compelled to make on some parts of this pamphlet, we wish not to be understood as casting a censure on the work generally; we wish rather to encourage than to discountenance investigations of this kind; but we wish also to see them well executed. The author of the publication before us, certainly deserves great credit for the labour he has bestowed on this subject; and particularly for collecting information concerning the medical virtues of these waters. This information was much wanted, and will undoubtedly be useful. The whole performance is indeed well calculated to amuse and inform the passing traveller, who has not had an opportunity to see and taste for himself. This, we presume, was the principal design of the writer, and thus far his design will be accomplished. The man of science assuredly cannot drink deep of this pierian fount, nor will he find it either pungent to his taste or exhilarating to his mind; but, like the plain and wholesome waters of ordinary springs, it may quench the public thirst, though it do not brighten the public intellect.*"

The writer of the Dissertation with equal liberality would likewise observe that, *Notwithstanding the little objections he has been compelled to make to some parts of this review, he wishes not to be understood as casting a censure on such works generally, but he wishes also to see them well executed.* The criticisms indeed seem well calculated to amuse the passing reader who has not had an opportunity of knowing any thing of chemistry himself. *This he presumes was the principal design of the writers.* The man of science assuredly, unless he makes a large swallow, must here indeed have something pungent to his taste, if not exciting to his hilarity. Must not their great discovery of the power of water to hold the carbonate of lime in solution, in spite of the decomposing power of heat, *brighten the public intellect?* How gratifying it is to observe with what facility, by their own intuitive authority, they prostrate a Bergman, a Kirwan, a Murray, and a host of other drudging experimenters, at their feet! Those old-fashion-folks used to toil and dig deep for their facts, while these modern adepts, with unsoiled hands, seem to flourish about, upon the high ground of science, with all imaginable ease.

Upon first reading the *Review*, the following exculpatory letter, with a little variation, was drawn up: It was intended to have been published by itself, but upon consideration, it was deemed expedient to accompany it with the foregoing extracts and observations, that the whole subject might come more fully before the reader, particularly as the book from whence the extracts are taken, may not be in the possession of every one, that may meet with this reply.

TO BENJAMIN DE WITT, M. D. AND DR. J. A. SMITH,
Editors of the New-York Medical and Philosophical Journal and Review.

THE article published in the second number of the "New-York Medical and Philosophical Journal and Review," as you style it, relative to "A Dissertation on the Mineral Waters of Saratoga, &c. by Valentine Seaman, M. D." &c. might, at first view, with seeming justice, be ascribed to one of you. The subject being so foreign to the general objects of Dr. Smith's inquiries, ought at once to do away all suspicion of his having been the author. The temper manifested therein, so ill comporting with the reputed ur-

banity of Dr. De Witt, ought equally to forbid us from imputing it to him. It is not however upon the general complexion of the article *alone*, but upon very different grounds, and which, with some less acquainted with him, might be considered of a more unquestionable nature, that I rest my conclusions of its having been derived from some other person, and that Dr. D. could have had but very little, if any, concern in it.

I infer that the article could not have been written by Dr. De Witt; in the first place: Because, from the circumstance of his long residence in the vicinity of Saratoga, and his repeated visits to the Springs, *he* certainly must know, that the conical rock surrounding the Spring particularly adverted to, is of too steep an ascent for any one to walk up its sides; and that although persons do, *at present*, stand around the opening of its crater to drink of its waters, it is by means of a stage erected for that purpose, and that, instead of standing upon the Rock itself, they stand upon the wooden floor of this superstructure.

2d. Because Dr. De Witt, from being a Professor of Chemistry, and having actually delivered some Lectures upon that subject, cannot possibly but know, that lime held in solution by the aid of carbonic acid, must necessarily be "extricated" (precipitated) by boiling the water. *Dr. D.* could never have been so perplexed by the result of an experiment with the oxalic acid, which (without *proving too much*) merely proved that the water of Ballston, after having been boiled down to one fourth of its original quantity, and filtered, no longer contained any lime. Can any one suppose but that that modesty which so conspicuously characterises men of worth, would have prevented *him* from stating *his single authority* in opposition to the truth of such an experiment?

3d. Because *he* never would have ventured to risque his chemical reputation so far as to pretend to believe that water, under great pressure, might not have more fixed air forced into it, than it could possibly retain in an open spring, when under no other than the ordinary pressure of the atmosphere. *He* cannot but know that the superabundant air contained in artificial mineral waters, is rapidly discharged immediately upon their being let loose from their confinement; so that what is said in regard to what *Thompson says has been said to him*, and also to what others may have informed respecting the quantity of this air, that is artificially

condensed in water, may *all* be true: and even if it should be admitted, for argument's sake, that the waters of those springs might, in their course under the earth, have been subjected to an incalculable pressure, and *then* have had, in consequence thereof, an incalculable quantity of the carbonic acid concentrated in them, yet *Dr. D.* certainly would not thence infer that the same waters, when exposed in the basin of an open spring, would retain more of this gas than the most able *experimental* chemists of the day, could make uncompressed water, at their temperature, retain. I cannot be persuaded that *Dr. D.* would assert that because water under pressure may be heated to upwards of 400°, that the same water would, when discharged into an open reservoir, remain above 212°, the boiling point: no more can I believe that *he* would seriously publish to the world, that because water under pressure may be made to retain upwards of several times its bulk of carbonic acid gas, it would retain the same proportion when unconfined in the open air, or that *he* believes the *Ballston Springs* more highly impregnated with this air than any artificial water can well be.

4th. Because, having himself been so far engaged in attempting the analysis of mineral waters, as to have it announced as much as ten years ago, that he *intended speedily to publish a Treatise on all the principal mineral and medicinal waters in the State,** he, certainly, from this particular consideration, must have been better informed, than to have committed such gross errors as are exhibited throughout the various parts of that Review.

Finally, Because it can hardly be supposed that *Dr. D.* after having honoured Henry's Chemistry with his approbation, and *recommended it as a correct and meritorious work*, would be so inconsistent as, in so many instances, to differ with it. There is not a single chemical point of opposition to the Dissertation, but what is equally opposed either to the opinions, assertions or experiments, of that favoured author.

From thus having such proof that neither of you could have been the author of the remarks in question, I take the liberty to suggest, whether it would not be proper for you, since having so incautiously suffered such an inaccurate production to gain a place in the Review, for which you are

* Med. Repofitory, vol. 2d. This long-looked-for Treatise has not yet met the public eye.

responsible, to request the writer to correct it in the next number of the Journal, if you should conclude to continue that publication. I would also thank you to publish this communication *entire*, for his edification.

As to the *humour* displayed in the article alluded to, I have but little to say: If it has relieved the writer, I ought not to complain. If, by standing in the way of one affected with *atra bilis*, I should by chance receive a sprinkling of the morbid matters ejected from his disordered stomach, could I take offence? Would not any one, thus circumstanced, lose all thoughts of so slight an injury, in pity for the deplorable state of the poor sufferer under so dreadful a disease?

The Reviewer wants something *pungent to his taste*; possibly he may, by this time, relish that which is mild; if not, I must give him up: I deal not in sharp things. He appears to grieve at being *compelled* to complain. It may afford him some consolation to be informed, that whatever may have been my calculations in respect to others, I never did think, by my publication, to *exhilarate the mind*, or *brighten the intellect of* such a *man of science*, as could have the vanity to attempt a criticism upon an intricate chemical subject, who, at the same time, was so ignorant as to think, and so bold in his ignorance, as, in the grave character of a public censor, to assert that lime, held in solution by the agency of the carbonic acid, would not be precipitated by boiling the water.

V. SEAMAN.

CHEMICAL LECTURES.

MR. GRISCOM proposes to commence his Winter course of Lectures on Chemistry about the middle of November.